

PROJECT SPECIFICATIONS AND
CONTRACT DOCUMENTS

AMERICAN FORK CITY
ART DYE ROUNDABOUT PROJECT

October 2020

Prepared by:

HORROCKS
ENGINEERS

2162 West Grove Parkway #400
Pleasant Grove, Utah 84062



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SPECIFICATIONS AS REFERENCED

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- can be found at <http://afcity.org/DocumentCenter/View/74/Standards-and-Specifications-Full-Documen-PDF>

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For HMA use the 321205 specification from the following standard with the special provision included herein:
American Public Works Association Manual of Standard Specifications (2017)

DOCUMENTS 000200

ADVERTISEMENT FOR BIDS

Owner: AMERICAN FORK CITY
Address: 51 EAST MAIN STREET
AMERICAN FORK, UT 84003

Separate sealed Bids for the Construction of the **AMERICAN FORK CITY – Art Dye Roundabout Project** will be received by American Fork City through the Utah Supplier Portal website at **purchasing.utah.gov** until 2:00 p.m. MDST, November 24, 2020.

The principal items of work are approximately as follows:

INSTALLATION OF STORM DRAIN, CURB AND GUTTER, ASPHALT PAVING, AND CONCRETE FLAT WORK ASSOCIATED WITH THE CONSTRUCTION OF A ROUNDABOUT AT ART DYE PARK.

Plans will be available November 2, 2020.

The installation of storm drain, curb and gutter, asphalt paving, and concrete flat work associated with the construction of a roundabout at Art Dye Park is to be completed by May 15, 2021.

The CONTRACT DOCUMENTS, consisting of Advertisement for Bids, Information for Bidders, Bid, Bid Bond, Agreement, Payment Bond, Performance Bond, Notice of Award, Notice to Proceed, Change Order, General Conditions, Supplemental General Conditions, Specifications, Drawings, and Addenda, may be obtained through the website purchasing.utah.gov.

A **pre-bid** conference will be held Online via a Microsoft Teams Meeting Tuesday, November 10, 2020 at 10:00 a.m. The purpose of this conference will be to discuss questions bidders may have on the project and clarify the intent of the plans and specifications. Detailed instructions about attending the online meeting can be obtained through the Utah Supplier Portal website at **purchasing.utah.gov** in a document labeled “online pre-bid meeting instructions”.

For participants who wish to join only on the conference call, the call-in number is 1-385-419-2863 and conference ID is 739 563 149#. This allows the participant to listen to the presentation and discussion. Participant may also ask questions at the appropriate time when invited. Please state participants name and company when asking a question. We request that participants email jordans@horricks.com their name, company, phone number, and email address for the attendance list.

For participants who wish to join only on Microsoft Teams, copy and paste the link below into their web browser. Once the link is open, they have the choice to download the windows app, join on the web, or launch Microsoft Teams, if they already have it installed. Participants do not have to have Microsoft Teams installed to join the meeting. This allows the participant to listen to and view the presentation and discussion. Participant may also ask questions by typing it in the meeting chat side bar. We request that participants input their name, company, phone number, and email address in the meeting chat side bar for the attendance list.

https://teams.microsoft.com/dl/launcher/launcher.html?url=%2F%23%2F%2Fmeetup-join%2F19%3Ameeting_ZGUxZjUzNGQtZTBhNC00Nzg2LWlxMGMtNTY3NDc2NGY3ZTZk%40thread.v2%2F0%3Fcontent%3D%257b%2522Tid%2522%253a%2522802dffa8-88c3-4c25-b195-4c67ce7dbdf7%2522%252c%2522Oid%2522%253a%2522a6bf0e0a-4be0-49c5-b77e-2aba3c14c920%2522%257d%26anon%3Dtrue&type=meetup-join&deeplinkId=3ef17de0-6ebf-440e-9543-94d08989a66f&directDl=true&msLaunch=true&enableMobilePage=true&suppressPrompt=true

For participants who wish to join the meeting on Microsoft Teams but do not have a microphone and or speaker they can also join the audio conference call. If participants join both Teams and the audio call, they need to mute their microphone and or speaker (generally all have one or the other) or the conference will be disrupted by feedback and you will be disconnected.

Please be aware of any background noise at participants locations as it may disrupt the meeting. If the meeting is disrupted by background noise the meeting organizer may mute the participant. If the participant would like to speak, they will need to unmute themselves by pressing the microphone button on Microsoft Teams or *6 on the audio conference call.

All BIDDERS are required to have payment and performance bonds underwritten by a Surety Company approved by the U.S. Department of the Treasury. (Circular 570, latest edition).

AMERICAN FORK CITY RESERVES THE RIGHT TO ACCEPT OR REJECT ANY OR ALL PROPOSALS, OR ANY PART OF ANY PROPOSAL. AMERICAN FORK CITY RESERVES THE RIGHT TO WAIVE ANY INFORMALITY IN PART OR IN WHOLE IF IT IS DEEMED TO BE IN THE BEST INTEREST OF AMERICAN FORK CITY.

Date: _____

Brad Frost
Mayor

DOCUMENT 001000

INFORMATION FOR BIDDERS

BIDS for the construction of the **American Fork City – Art Dye Roundabout Project** will be received by American Fork City (herein called the "OWNER") through the Utah Supplier Portal website at **purchasing.utah.gov** until 2:00 p.m., November 24, 2020.

Each BID must be submitted through the website purchasing.utah.gov. All required bid forms and documents shall be submitted electronically.

These instructions are to be considered with and made a part of the contract.

All BIDS must be made on the required BID form (Document 003000) and submitted electronically.

The OWNER may waive any informalities or minor defects or reject any and all BIDS. Any BID may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof. Any BID received after the time and date specified shall not be considered. No BIDDER may withdraw a BID within 60 days after the actual date of the opening thereof. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the OWNER and the BIDDER.

BIDDERS must satisfy themselves of the accuracy of the estimated quantities in the Bid Schedule by examination of the site and a review of the plans and specifications including Addenda. After BIDS have been submitted, the BIDDER shall not assert that there was a misunderstanding concerning the quantities of work or of the nature of the work to be done.

The CONTRACT DOCUMENTS contain the provisions required for the construction of the project. Information obtained from an officer, agent, or employee of the OWNER or any other person shall not affect the risks or obligations assumed by the CONTRACTOR or relieve him from fulfilling any of the conditions of the Contract.

Each BID must be accompanied by a Bid Bond payable to the OWNER for five (5) percent of the total amount of the BID. As soon as the BID prices have been compared, the OWNER will return the bonds of all except the three lowest responsible BIDDERS. When the Agreement is executed, the bonds of the two remaining unsuccessful BIDDERS will be returned. The Bid Bond of the successful BIDDER will be retained until the Payment Bond and Performance Bond have been executed and approved, after which it will be returned. A certified check may be used in lieu of a Bid Bond.

A Performance Bond and a Payment Bond, each in the amount of 100 percent of the CONTRACT PRICE, with a corporate surety approved by the U.S. Department of the Treasury (Circular 570, latest edition) will be required for the faithful performance of the contract.

Attorneys-in-fact who sign Bid Bonds or Payment Bonds and Performance Bonds must file with each bond a certified and effective dated copy of their power of attorney.

The party or parties to whom the contract is awarded will be required to execute the Agreement and obtain the Performance Bond and Payment Bond within ten (10) calendar days from the date when Notice of Award is delivered to the bidder. The Notice of Award shall be accompanied by the necessary Agreement and bond forms. In case of failure of the BIDDER to execute the Agreement, the OWNER may at his option consider the BIDDER in default, in which case the Bid Bond accompanying the proposal shall become the property of the OWNER.

The OWNER within ten (10) days of receipt of acceptable Performance Bond, Payment Bond, and Agreement signed by the party to whom the Agreement was awarded will sign the Agreement and return to such party

an executed duplicate of the Agreement. Should the OWNER not execute the Agreement within such period, the BIDDER may by written notice withdraw his signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the OWNER.

The Notice to Proceed will be issued within ten (10) days of the execution of the Agreement by the OWNER. Should there be reasons why the Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between the OWNER and CONTRACTOR. If the Notice to Proceed has not been issued within the ten (10) day period or within the period mutually agreed upon, the CONTRACTOR may terminate the Agreement without further liability on the part of either party.

The OWNER may make such investigations as he deems necessary to determine the ability and character of the BIDDER to perform the work, and the BIDDER shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any BID if the evidence submitted by, or investigation of, such BIDDER fails to satisfy the OWNER in any way that such BIDDER is properly responsible and qualified to carry out the obligations of the Agreement and to complete the work contemplated therein.

A conditional or qualified BID will not be accepted.

All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout.

Each BIDDER is responsible for inspecting the site and for reading and being thoroughly familiar with the CONTRACT DOCUMENTS. The failure or omission of any BIDDER to do any of the foregoing shall in no way relieve any BIDDER from any obligation in respect to his BID.

Bidders are cautioned that they must inform themselves of the character of the work to be performed under this contract and that a deviation to any extent either way may be made from the approximate quantities, which are stated for the purpose of showing the class of work required and as a basis for determining the amount of the bid, but not to fix the amount of work to be done.

The Contractor will be paid for work actually done at the unit prices bid, regardless of differences in the estimated quantities listed in the bid proposal and the actual quantities. Final payments will be based on quantities in place, measured or determined by the Engineer at the site where work has been constructed or accomplished.

Award will be made to the lowest responsive, responsible BIDDER, based on the total cost for the BID. The owner reserves the right to award all, none, or any combination of the Base Bid and Additive Alternate Bid. The Owner reserves the right to reject any and all BIDS without cause and to waive any informality or defect in any BID received.

THE OWNER MAY REJECT ANY BID BASED ON PAST OR CURRENT EXPERIENCE WITH THE CONTRACTOR, OR OBSERVED LACK OF PERFORMANCE OF THE CONTRACTOR IN AMERICAN FORK CITY OR OTHER COMMUNITIES, MUNICIPALITIES, OR PUBLIC AGENCIES.

The Owner may reject any BID based on an evaluation of available resources and schedule.

When a proposal is made by a firm, the firm name, and also the individual name(s) of the member(s) of the firm must be signed in full.

No alterations by erasure will be allowed and permission will not, in any case, be given for the withdrawal, modifications, or explanation of any bid.

The Owner reserves the right to reject any and all proposals and to waive any informality or defects in the proposal received.

Transfers of contract, or of interest in contracts, are prohibited. The General Contractor will be responsible for all subcontractors.

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https://teams.microsoft.com/dl/launcher/launcher.html?url=%2F%23%2F%2Fmeetup-join%2F19%3Ameeting_ZGUxZjUzNGQtZTBhNC00Nzg2LWlxMGMtNTY3NDc2NGY3ZTZk%40thread.v2%2F0%3Fcontent%3D%257b%2522Tid%2522%253a%2522802dffa8-88c3-4c25-b195-4c67ce7dbdf7%2522%252c%2522Oid%2522%253a%2522a6bf0e0a-4be0-49c5-b77e-2aba3c14c920%2522%257d%26anon%3Dtrue&type=meetup-join&deeplinkId=3ef17de0-6ebf-440e-9543-94d08989a66f&directDl=true&msLaunch=true&enableMobilePage=true&suppressPrompt=true

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Fifty-one (51) percent of all work completed shall be performed by the General Contractor.

All proposals shall be made and received with the express understanding that the bidder accepts the terms and conditions contained in the complete contract bound herewith.

Neither the Engineer nor Owner shall be held responsible for any oral instructions. Any changes to the Plans and Specifications will be in the form of a written Addendum which will be furnished to all plan holders through the Utah Supplier Portal website at purchasing.utah.gov.

Additional information can be obtained prior to submitting your bid by submitting questions to the Utah Supplier Portal website at purchasing.utah.gov. No questions will be answered through phone calls or office visits.

DOCUMENT 002000

INFORMATION REQUIRED OF BIDDER

GENERAL INFORMATION

The bidder shall furnish the following information. Failure to comply with the requirement may render the BID non-responsive and may cause its rejection. Additional sheets shall be attached as required.

- (1) Contractor's name and address:

- (2) Contractor's telephone number: _____

- (3) Contractor's license: Primary classification: _____

State License No.: _____

Supplemental classifications held, if any: _____

- (4) Number of years as a contractor in construction work of this type: _____

- (5) Names and titles of all officers of contractor's firm:

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

- (6) Name of person who inspected site of proposed work for your firm:

Name: _____ Date of Inspection: _____

NOTE: THE FOLLOWING INFORMATION SHALL BE PROVIDED AS SEPARATE ATTACHMENTS AND SHALL BE SUBMITTED WITH BID.

- (7) Name and telephone number of surety company and agent who will provide the required bonds on the contract:

Name: _____ Telephone: _____

- (8) Individual experience resume of person who will be designated chief construction superintendent.

- (9) List of subcontractors and major suppliers anticipated to be utilized during the contract.

- (10) The bidder must demonstrate the ability to perform at least **fifty-one (51)** percent of the work without subcontracting and complete the project within the specified time frame. Information on the bidder's ability to staff the project, both in the field and in his office, and the bidder's ability to directly supply major construction equipment to the project shall be submitted for review with the bidder's proposal.
- (11) List of completed projects similar in nature to this project, including a reference list of at least two construction contracts completed by the Contractor during the last four (4) years involving work of similar type, and complexity and the most recently completed project. This list shall include the following information for each project as a minimum:
- | | | | |
|---|--|---|--|
| - | Name, address and telephone number of owner | - | Contract amount |
| - | Name of Project | - | Date of completion of contract |
| - | Name, address and telephone number of project engineer | - | Brief description of the work involved, size, length, etc. |
| - | | - | Number of change orders Amount of change. |

NOTE: THE FOLLOWING INFORMATION SHALL BE PROVIDED AS SEPARATE ATTACHMENTS AND SHALL BE SUBMITTED UPON REQUEST OF THE OWNER, PRIOR TO AWARDED BID.

- (12) A notarized and verified financial statement, references, and other information, sufficiently comprehensive to permit an appraisal of contractor's current financial condition.

DOCUMENT 003000

BID

Art Dye Roundabout Project

Bid Documents which are required for a complete bid:

- Document 002000 INFORMATION REQUIRED OF BIDDER
 - Items 1 – 11 completed on enclosed forms or additional sheets as needed.
- Document 003000 BID
 - Completed on original enclosed form.
- Document 003500 BID BOND
 - Completed on enclosed form or Surety Company's form.

CONTRACTOR ACKNOWLEDGES THAT ABOVE STATED DOCUMENTS ARE REQUIRED AND ENCLOSED AS PART OF THIS BID.

Signature

Date

PART 1 GENERAL

Date _____

Proposal of _____ (hereinafter called "BIDDER", organized and existing under the laws of the State of Utah, doing business as _____.*

*Insert "a corporation", "a partnership", or "an individual" as applicable.

To American Fork City (hereinafter called "OWNER").

In compliance with your Advertisement for Bids, BIDDER hereby proposes to perform all work for the construction of American Fork City – Art Dye Roundabout Project in strict accordance with the CONTRACT DOCUMENTS, within the time set forth therein, and at the prices stated below.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID, each party thereto certifies as to his own organization that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER hereby agrees to commence work under this contract on or before a date to be specified in the Notice to Proceed. The BIDDER also agrees to have the project completed by May 15, 2021.

BIDDER further agrees to pay as liquidated damages, the sum of \$1,000.00 for each consecutive calendar day thereafter as provided in section 1-29 of the SPECIAL PROVISIONS.

BIDDER acknowledges receipt of the following ADDENDUM:

BIDDER acknowledges having reviewed Section 007500 - Special Provisions _____
(Initial)

The BIDDER agrees to perform all the work described in the specifications and shown on the plans for the following BID UNIT PRICES (Figures are to be typewritten or clearly and legibly printed in ink.):

The BIDDER agrees that this bid shall be good and may not be withdrawn for 60 calendar days as stated in the specifications after the scheduled closing time for receiving bids.

The BID unit prices shall include all labor, materials, mobilization, rentals, bailing, shoring, removal, overhead, profit, insurance, sales tax, other applicable taxes and fees, etc., to cover the finished work of the several kinds called for.

Upon receipt of written notice of the acceptance of this bid, BIDDER will execute the formal contract attached within 10 days and deliver a Surety Bond or Bonds as required by the General Conditions. The bid security amounting to five (5) percent of the base bid is hereby attached in the sum of (\$ _____) and is to become the property of the OWNER in the event the contract and bond are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the OWNER caused thereby.

SCHEDULE OF VALUES

For a responsive bid, write in unit price for each item, multiply by respective units, and total for a lump sum price.

| Item No. | Description | Quantity | Units | Unit Price | Total Price |
|----------|---|----------|-------|------------|-------------|
| 1 | Mobilization | 1 | LS | \$ | \$ |
| 2 | Demolition | 1 | LS | \$ | \$ |
| 3 | Storm Water Pollution Prevention Plan | 1 | LS | \$ | \$ |
| 4 | Remove Existing Curb and Gutter | 500 | LF | \$ | \$ |
| 5 | Remove Existing Sign | 2 | EA | \$ | \$ |
| 6 | Remove Existing Asphalt | 2160 | SY | \$ | \$ |
| 7 | Roadway Excavation | 50 | CY | \$ | \$ |
| 8 | Reconstruct Storm Drain Catch Basin | 2 | EA | \$ | \$ |
| 9 | Storm Drain Catch Basin | 3 | EA | \$ | \$ |
| 10 | 15 Inch RCP, Class III | 71 | LF | \$ | \$ |
| 11 | Connect to Existing Storm Drain Catch Basin | 1 | EA | \$ | |
| 12 | Type E Curb & Gutter | 800 | LF | \$ | \$ |
| 13 | Mountable Curb | 233 | LF | \$ | \$ |
| 14 | Type Q Curb & Gutter | 604 | LF | \$ | \$ |
| 15 | 4.0' Valley Gutter | 11 | LF | \$ | \$ |
| 16 | Curb & Gutter Connection | 4 | EA | \$ | \$ |
| 17 | Concrete Sidewalk 4 Inch Thick | 1468 | SF | \$ | \$ |
| 18 | ADA Detectable Warning Surface | 120 | SF | \$ | \$ |

| Item No. | Description | Quantity | Units | Unit Price | Total Price |
|----------|-------------------------------------|-----------|-------|------------|-------------|
| 19 | 8-inch Decorative Concrete Pavement | 2592 | SF | \$ | \$ |
| 20 | 4-inch Decorative Concrete Pavement | 2580 | SF | \$ | \$ |
| 21 | Untreated Base Course | 350 | CY | \$ | \$ |
| 22 | HMA Asphalt 4 Inches | 295 | Ton | \$ | \$ |
| 23 | Sign (R1-2, R6-5P) | 4 | EA | \$ | \$ |
| 24 | Sign (R4-7C, OM3-L) | 2 | EA | \$ | \$ |
| 25 | Striping – 12-inch White Stripe | 165 | LF | \$ | \$ |
| 26 | Striping – 4-inch White Stripe | 795 | LF | \$ | \$ |
| 27 | Striping – 4-inch Yellow Stripe | 455 | LF | \$ | \$ |
| 28 | Striping – Yield Bar | 48 | LF | \$ | \$ |
| 29 | Landscape & Irrigation | 1 | LS | \$ | \$ |
| 30 | Parking Bumpers | 15 | EA | \$ | \$ |
| | TOTAL BASE BID PRICE | \$ | | | |

ALTERNATE BID

The alternate bid replaces a portion of the Hot Mix Asphalt Pavement with Concrete Pavement.

| Item No. | Description | Quantity | Units | Unit Price | Total Price |
|----------|----------------------------------|-----------|-------|------------|-------------|
| 31 | 5-Inch Concrete Pavement | 7336 | SF | \$ | \$ |
| 32 | HMA Asphalt 4 Inches | -197 | TON | \$ | \$ |
| 33 | Untreated Base Course | -226 | CY | \$ | \$ |
| | TOTAL ALTERNATE BID PRICE | \$ | | | |

Measurement and Payment Descriptions are included at the end of this section.

ATTEST:

Utah License No.

Respectfully Submitted:

Signature

Address

Title

Date

PART 2 MEASUREMENT AND PAYMENT

Bid Items

1. Mobilization - Bid Item 1

- A. Payment covers cost of mobilization, demobilization, installation of temporary facilities, and bringing all necessary construction equipment to the site. Payment will be made on a percentage of the LUMP SUM BASIS as follows:

| Percent of Original Contract Amount Earned | Percent of Amount Bid for Mobilization to be Paid |
|---|--|
| 5 | 40 |
| 35 | 20 |
| 50 | 30 |
| 70 | 10 |

- B. Payment also includes the cost of scheduling processes required per project specifications.
C. Payment will include conforming to all applicable local, state and federal requirements.
D. Moving on the site any equipment required for first month operations.
E. Installing temporary construction power and wiring.
F. Developing construction water supply.
G. Providing on-site sanitary facilities and potable water facilities as specified.
H. Arranging for and erection of Contractor's work and storage yard.
I. Contractor and Subcontractor insurance and bonds.
J. Obtaining all required permits, licenses, and fees.
J. Dust and Mud Control including UPDES storm water permit and fugitive dust control plan.
K. Contract Closeout

2. Traffic Control - Bid Item 2

- A. Measurement and payment for Traffic Control shall be LUMP SUM. This item will be paid for as a percentage in relationship to the project percentage complete. This item will be compensation in full for flagging, furnishing, installing and moving all traffic control devices. This item shall also include maintaining safe access to all residences.

3. Storm Water Pollution Prevention Plan - Bid Item 3

- A. Measurement shall be made on a LUMP SUM basis for preparing and implementing an approved Storm Water Pollution Prevention Plan.
B. Payment for this item shall be made based on the proportion of the total contract completed. Such payment will be compensation in full for furnishing all materials, labor, equipment, tools, and incidentals necessary to establish adequate sediment and erosion control, implement Best Management Practices (BMPs) for the protection of waterways from sediment laden runoff due to construction activities, and dust and mud control. This item shall include installation, maintenance and removal of sediment fencing, waddles, inlet protection, construction entrance, stockpile protection, port-a-johns, orange barrier fence, etc. This item shall include appropriate dewatering procedures per State of Utah requirements. Such payment shall also include any additional measures necessary to ensure State (UPDES) and Federal (NPDES) compliance for BMP for storm water protection. Prepared plan shall meet the requirement of the City's current Storm Water Management Plan.

4. Remove Existing Curb and Gutter - Bid Item 4

- A. Measurement shall be made on a PER LINEAL FOOT basis for the removal of existing curb and gutter as shown on the plans and described in the specifications.
B. Payment shall be compensation in full for removal of the curb and gutter including all cost of saw cutting concrete, jack hammering, removal and disposal of existing curb and gutter. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.

5. Remove Existing Sign - Bid Item 5

- A. Measurement shall be made on a PER EACH basis for the removal of existing signs as shown on the plans and described in the specifications.

- B. Payment will be made at the unit price bid per each. Such payment will be compensation in full for removal and disposal of existing signs including the cost of removing existing foundations, as specified or indicated on the plans. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.
- 6. Remove Existing Pavement - Bid Item 6**
- A. Measurement shall be made on a PER SQUARE YARD basis for the removal existing pavement as shown on the plans and described in the specifications.
 - B. Payment shall be made at the unit price bid per square yard as identified in the bid schedule. Such payment shall be compensation in full for removing and disposing the existing pavement layer in its entirety. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.
- 7. Roadway Excavation – Bid Item 7**
- A. Measurement shall be made on a CUBIC YARD basis for excavation of existing material within the limits shown on the plans to a depth required to meet the roadway surfacing section.
 - B. Payment shall be compensation in full for the excavation and disposing of material to meet the roadway surfacing section. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.
 - C. If soft spots are encountered during excavation for roadway construction, repair as directed by the engineer, over excavation volume to be paid for under roadway excavation bid item and fill with granular borrow paid for under granular borrow item.
- 8. Reconstruct Storm Drain Catch Basin - Bid Item 8**
- A. Measurement shall be made on a PER EACH basis for the reconstruction of existing storm drain catch basins as shown on the plans and described in the specifications.
 - B. Payment will be made at the unit price bid per each. Such payment will be compensation in full for removal of the existing catch basin grate and placement of a new catch basin grate on the existing storm drain box to match new curb and gutter alignments and grades including any saw cutting, grouting, reinforcement, cast-in-place concrete, and disposal of existing grate as specified or indicated on the plans. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.
- 9. Storm Drain Structures - Bid Item 9**
- A. Measurement shall be made on a PER EACH basis for installation of the structure as shown on the plans and described in the specifications.
 - B. Payment shall be compensation in full for installing the structure including all cost of saw cutting asphalt, excavation, removal of obstructions, bedding material, pipe stub outs, grate and frame or manhole lid, connection to pipes, grouting, concrete, sidewalk and driveway replacement, curb and gutter repair, landscape restoration, and proper disposal of existing materials. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.
- 10. RCP Class V Storm Drain Pipe - Bid Item 10**
- A. Measurement shall be made on a PER LINEAL FOOT basis for installing the pipe as shown on the plans and described in the specifications.
 - B. Payment will be made at the unit price bid per linear foot. Such payment will be compensation in full for furnishing and installing pipe complete in place including all cost of clearing and grubbing, stripping, excavation, removal of obstructions, saw cutting, pavement removal and disposal, concrete removal and disposal, shoring and bracing, dewatering, bedding material, pipe connections, backfilling and compaction, flushing, testing, video inspections, damaged curb gutter and sidewalk replacement, fence replacement, pipe, culvert and creek crossings, driveway replacement, surface restoration, landscape replacement, structure connections, and all appurtenances as specified or indicated on the plans.
- 11. Connect to Existing Structure - Bid Item 11**
- A. Measurement shall be made on a PER EACH basis for connecting to the existing structure as shown on the plans and described in the specifications.
 - B. Payment will be compensation in full for this item. Payment covers the cost of excavation, saw cutting asphalt, coring, bedding material, connecting pipe to structure, grouting, reinforcing steel, concrete, testing,

clean up, and disposal of existing materials. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.

12. Curb and Gutter - Bid Items 12, 13, 14

- A. Measurement shall be made on a PER LINEAL FOOT basis for installing the curb and gutter as shown on the plans and described in the specifications.
- B. Payment shall be compensation in full for installing the curb and gutter for roadway improvements including all cost of saw cutting asphalt, excavation (including 6 inches of additional material beneath the curb and gutter), 6 inches of untreated base course, compaction, testing, forming, expansion joint, placing concrete, finishing surface, landscape restorations and disposal of existing materials. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.

13. 4 Foot Valley Gutter – Bid Item 15

- A. Measurement shall be made on a PER LINEAL FOOT BASIS for installing the 4 foot valley gutter as shown on the plans and described in the specifications.
- B. Payment shall be compensation in full for installing the 4 foot valley gutter for roadway improvements including all cost of saw cutting asphalt or concrete, excavation (including 8 inches of additional material beneath the cross gutter), 8 inches of untreated base course, compaction, testing, forming, rebar, placing concrete, finishing surface, landscape restorations and disposal of existing materials. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.

14. Connect to Existing Curb and Gutter - Bid Item 16

- A. Measurement shall be made on a PER EACH basis for connecting to the existing Curb and Gutter as shown on the plans and described in the specifications.
- B. Payment will be compensation in full for this item. Payment covers the cost of drilling, doweling, epoxy, clean up, and disposal of existing materials. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.

15. Concrete Sidewalk – Bid Item 17

- A. Measurement shall be made on a PER SQUARE FOOT basis for installing the sidewalk as shown on the plans and described in the specifications.
- B. Payment shall be compensation in full for installing the sidewalk including all cost of saw cutting concrete, excavation (including 6 inches of additional material beneath the sidewalk), 6 inches of untreated base course, compaction, testing, forming, placing concrete, expansion joint, finishing surface, landscape restorations and disposal of existing materials. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.

16. ADA Detectable Warning Surface - Bid Item 18

- A. Measurement shall be made on a PER SQUARE FOOT basis for installing ADA detectable warning surfaces as shown on the plans and described in the specifications.
- B. Payment shall be compensation in full for installing the detectable warning surfaces. Payment will cover the cost of all labor, materials, equipment and tools to complete this item. The cost of the concrete work will be covered by the sidewalk item.

17. 8-inch Decorative Concrete Pavement – Bid Item 19

- A. Measurement shall be made on a PER SQUARE FOOT basis for installing the decorative concrete pavement as shown on the plans and described in the specifications.
- B. Payment shall be compensation in full for installing the decorative concrete pavement including all cost of saw cutting concrete, excavation (including 4 inches of additional material beneath the decorative concrete pavement), 4 inches of untreated base course, compaction, testing, forming, placing concrete, expansion joint, finishing surface, landscape restorations and disposal of existing materials. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.

18. 4-inch Decorative Concrete Pavement – Bid Item 20

- A. Measurement shall be made on a PER SQUARE FOOT basis for installing the decorative concrete pavement as shown on the plans and described in the specifications.

- B. Payment shall be compensation in full for installing the decorative concrete pavement including all cost of saw cutting concrete, excavation (including 4 inches of additional material beneath the decorative concrete pavement), 4 inches of untreated base course, compaction, testing, forming, placing concrete, expansion joint, finishing surface, landscape restorations and disposal of existing materials. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.

19. Untreated Base Course - Bid Item 21 and 33

- A. Measurement shall be made on a PER CUBIC YARD basis for untreated base course placed above the subgrade or trench backfill and below finished asphalt.
- B. Such payment shall be compensation in full for the complete furnishing and installing of the untreated base course. Every effort shall be made by the contractor to limit trench width. Payment will cover the cost of sub grade preparation, hauling, rolling and compaction of road base. Thickness shall be a minimum of 10 inches of UTBC. Only 10 inches thick will be paid under this item. This item shall also include compaction testing. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.

20. Hot Mix Asphalt - Bid Item 22 and 32

- A. Measurement shall be made on a PER TON basis for installation of the hot mix asphalt as shown on the plans and described in the specifications.
- B. Payment shall be compensation in full for installing the hot mix asphalt. Payment shall be made at the unit price bid per ton as identified in the bid schedule. Such payment shall be compensation in full for the complete furnishing and installing of the bituminous road surface material and tack coat. This item shall include the cost of all saw cutting, hauling, placing rolling and compaction of hot mix asphalt. Bituminous thickness shall be as specified in the plans. This item shall also include compaction testing and any restoration requirements required of the roadway excavation permittee. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.
- C. Quantities may vary due to field conditions.
- D. Hot mix asphalt shall be placed and compacted in one lift, unless the total thickness exceeds 3 inches.

21. Signs and Posts - Bid Items 23 and 24

- A. Measurement shall be made on a PER EACH basis for installing the sign as shown on the plans and described in the specifications.
- B. Payment shall be compensation in full for the sign, retroreflective sheeting, post, sleeve, concrete, hardware, and landscape restoration. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.

22. Striping - Bid Items 25, 26, 27, 28

- A. Measurement shall be made on a PER LINEAL FOOT basis for installing the striping as shown on the plans and described in the specifications.
- B. Payment shall be compensation in full for the site preparation, cleaning, and paint. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.

23. Landscape and Irrigation - Bid Item 29

- A. Measurement shall be made on a LUMP SUM basis for the construction and placement of the landscape and irrigation as shown on the plans and described in the specifications.
- B. Payment covers the cost of removing existing landscaping and irrigation, placement of new landscape and irrigation, including topsoil, seeding, sod, plants, irrigation piping, fittings, sprinklers, valves, irrigation controller and wiring. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.
- C. Contractor is expected to connect to the existing irrigation system.

24. Parking Bumpers - Bid Item 30

- A. Measurement shall be made on a PER EACH basis for parking bumpers as shown on the plans and described in the specifications.

- B. Payment covers the cost of all work and materials required per manufacturer recommendations for the installation of parking bumpers. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.

25. 5-inch Concrete Pavement – Alternate Bid Item 31

- A. Measurement shall be made on a PER SQUARE FOOT basis for installing the concrete pavement as shown on the plans and described in the specifications.
- B. Payment shall be compensation in full for installing the concrete pavement including all cost of saw cutting concrete, excavation (including 8 inches of additional material beneath the concrete pavement), 8 inches of untreated base course, compaction, testing, forming, placing concrete, expansion joint, finishing surface, landscape restorations and disposal of existing materials. Payment will cover the cost of all labor, materials, equipment and tools to complete this item.

END OF SECTION

DOCUMENT 003500
BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,

_____ as Principal, and

_____ as Surety, are hereby Held and firmly bound unto

_____ as Owner in the penal sum of _____ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors, and assigns. Signed, this _____ day of _____, 2020. The Condition of the above obligation is such that whereas the Principal submitted to _____ a certain Bid, attached hereto and hereby made a part hereof to enter into a contract in writing, for the American Fork Art Dye Roundabout Project.

NOW, THEREFORE,

- (a) If said Bid shall be rejected, or in the alternate.
- (b) If said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish a bond for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed upon that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

(Principal)

(Surety)

IMPORTANT - Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

DOCUMENT 003560

NON-COLLUSION AFFIDAVIT

_____, being the first duly sworn, deposes and says that:

1. He/she is _____ of _____
(Owner, partner, etc.) (Company)
the Bidder that has submitted the attached Bid;

2. He/she is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

3. Such Bid is genuine and is not a collusive or sham Bid;

4. Neither the said Bidder nor any of its officers, partners, owners, subcontractors, agents, representatives, employees or parties in interest including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Bidder, firm or person to submit a sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix price or prices in the attached Bid or of any other Bidder, or to fix overhead, profit or cost element of the bid price or the bid price of any other bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement and advantage against the City of American Fork;

5. No member of the City Council, or other Officers of the City of American Fork, or any person in the employ of the City is directly or indirectly interested in the bid, or the work to which it relates, or in any portion of the profits thereof; and,

6. The prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees or parties in interest including this affiant;

7. I am/The Bidder is not indebted to the City of American Fork in any form or manner.

Signature: _____

Date: _____

Title: _____

Witness: _____

DOCUMENT 003600

NOTICE OF AWARD

To: _____

PROJECT Description: American Fork City – Art Dye Roundabout Project

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated October 28, 2020, and Information for Bidders.

You are hereby notified that your BID has been accepted for items in the amount of \$_____.

You are required by the Information for Bidders to execute the Agreement and furnish the required CONTRACTOR'S Performance Bond, Payment Bond, and Certificates of Insurance within ten (10) calendar days from the date of this notice to you.

If you fail to execute said Agreement and to furnish said Bonds within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your Bid Bond. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to the OWNER.

Dated this _____ day of _____, 2020.

American Fork City
Owner

ACCEPTANCE OF NOTICE

By _____

Receipt of the above NOTICE OF
AWARD is hereby acknowledged

Title Mayor

By _____

this the _____ day of _____, 2018.

By _____

Title _____

SECTION 004200

CONTRACT CONSIDERATIONS

PART

1.01 SECTION INCLUDES

- A. Application for payment.
- B. Change procedures.
- C. Defect Assessment.
- D. Clarification of Work Requirements.
- E. Measurement and payment – general.
- F. Measurement and payment - unit price.
- G. Compensation for Altered Quantity.
- H. Project Milestones

1.02 RELATED SECTIONS

- A. Section 016000 - Material and Equipment: Product substitutions and options.

1.03 APPLICATIONS FOR PAYMENT

- A. Submit three copies of each application.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Monthly. Submit Pay Request by the 1st day of each month.
- D. Include an updated construction progress schedule.
- E. 5 percent retainage shall be held until construction is complete.

1.04 CHANGE PROCEDURES

- A. The Engineer will advise of minor changes in the Work not involving an adjustment to Contract Price or Contract Time as authorized by EJCDC, 2013 Edition Paragraph 11.01.
- B. The Engineer may issue a Notice of Change which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change. Contractor will prepare and submit an estimate within 5 days.
- C. The Contractor may propose changes by submitting a request for change to the Engineer, describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Price and Contract Time with full documentation.

- D. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under a Work Directive Change. Changes in Contract Price or Contract Time will be computed as specified for Force Account Change Order.
- E. Work Directive Change: Engineer may issue a directive, signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Price or Contract Time. Promptly execute the change.
- F. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

1.05 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the Engineer, it is not practical to remove and replace the Work, the Engineer will direct an appropriate remedy or adjust payment.

1.06 CLARIFICATION OF WORK REQUIREMENTS

- A. Costs due to utility delays and relocations are to be borne by the Contractor.
- B. All utilities have been reasonably drawn on plans to the best of the Owner's knowledge and record. There is the potential for existing utilities to not be shown on the plans or profiles or to be shown in the profiles at an approximate depth. All utilities locations are the responsibility of the contractor.
- C. Traffic control includes keeping one lane of traffic open on all collector roads, this item is to include flaggers. Ingress and egress for residents and businesses are to be maintained. On UDOT roads, all permits are the Contractor's responsibility, as well as conformance to all UDOT requirements. Roads are to be maintained over weekends and holidays.
- D. Contractor shall obtain an NOI permit from the State and submit a Storm Water Pollution Prevention Plan (SWPPP) to the City. The SWPPP will need to contain provisions for sweeping and vacuuming the paved areas. City may suspend or shut down the project if these items are not maintained.

PART

2.01 GENERAL

- A. The method of measurement and payment for the various items comprising the completed work follows: Payment for the items shall be compensation in full for the furnishing of all overhead, labor, material, tools, equipment, and appurtenances necessary to complete the work in a good, neat, and satisfactory manner as indicated on the Plans or as specified, with all cleanup and related work completed. Each item, fixture, piece of equipment, etc., shall be complete with all necessary connections and appurtenances for the satisfactory use and/or operation of said item. No additional payment will be made for work related to each item unless specifically noted or specified. Measurement will be in place in the completed work with no allowance for waste.

2.02 MEASUREMENT AND PAYMENT - UNIT PRICE

- A. Take measurements and compute quantities. The Engineer will verify measurements and quantities.
- B. Unit Quantities: Quantities and measurements indicated in the Bid Form are for contract purposes only. Quantities and measurements supplied or placed in the Work shall determine payment.
- C. Payment Includes: Full compensation for required labor, Products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

2.03 COMPENSATION FOR ALTERED QUANTITIES

- A. When the accepted quantities of work vary from the quantities in the bid schedule, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract unit prices for the accepted quantities of work done. No allowance except as provided in Sub-Section 14 of Section 007000 of the General Conditions will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor resulting either directly from such alterations or indirectly from unbalanced allocation among the contract items of overhead expense on the part of the Contractor and subsequent loss of expected reimbursement therefore, or from any other cause.
- B. The Engineer reserves the right to make at any time during the progress of the work, such increases or decreases in quantities and such alterations in the details of construction, and the elimination of one or more items as may be found necessary or desirable. Such alterations shall not be considered as a waiver of any conditions of the contract nor invalidate any of the provisions thereof nor release the surety. The Contractor agrees to accept the work as altered the same as if it had been a part of the original contract. **The City reserves the right to change the quantities by more than 10% without a change in the unit prices.**

PART

Not Used.

PART

Not Used.

END OF SECTION

DOCUMENT 005000

AGREEMENT

THIS AGREEMENT, made this _____ day of _____ by and between American Fork City, hereinafter called "OWNER" and _____, doing business as a corporation, hereinafter called "CONTRACTOR".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The CONTRACTOR will commence and complete construction of the American Fork City – Art Dye Roundabout Project.

2. The CONTRACTOR will furnish all of the material, supplies, tools, equipment, labor and other services necessary for the construction and completion of the project described herein.

3. The CONTRACTOR will commence the work required by the CONTRACT DOCUMENTS within 10 calendar days after the date of the Notice to Proceed and will complete the work required by the CONTRACT DOCUMENTS by May 15, 2021, unless the period for completion is extended otherwise by the CONTRACT DOCUMENTS.

4. The CONTRACTOR agrees to perform all of the WORK described in the CONTRACT DOCUMENTS and comply with the terms therein for the sum of \$ _____.

5. The term "CONTRACT DOCUMENTS" means and includes the following:

- (A) Advertisement for BIDS
- (B) Information for BIDDERS
- (C) Information Required of Bidder
- (D) Bid
- (E) Bid Bond
- (F) Agreement
- (G) General Conditions
- (H) Supplemental General Conditions
- (I) Special Provisions
- (J) Payment Bond
- (K) Performance Bond
- (L) Notice of Award
- (M) Notice to Proceed

- (N) Change Order
- (O) Specifications prepared or issued by Horrocks Engineers, dated October 2020.
- (P) Drawings prepared by Horrocks Engineers numbered 1 through 25 and dated August 2020.
- (Q) American Public Works Association Manual of Standard Specifications and Plans dated 2012.
- (R) Addendum:

6. The OWNER will pay to the CONTRACTOR in the manner at such times as set forth in the General Conditions such amounts as required by the CONTRACT DOCUMENTS. A five (5) percent retainage will be held until final payment is issued, at which point the retainage will be released.

7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns. IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in triplicate, each of which shall be deemed an original on the date first above written.

| | |
|---------------|-------------------------------------|
| | _____ American Fork City - OWNER |
| | By _____ |
| (SEAL) | Name _____ |
| ATTEST: | Title _____ |
| _____ | Approved as to form: |
| Name _____ | _____ |
| (please type) | City Attorney |
| Title _____ | Approved as to content: |
| | _____ |
| | City Engineer |
| (SEAL) | CONTRACTOR: |
| ATTEST: | _____ |
| _____ | By _____ |
| Name _____ | Name _____ |
| (please type) | (please type) |
| Title _____ | Address _____ |

DOCUMENT 005100
NOTICE TO PROCEED

To: _____

Date: _____

You are hereby notified to commence work in accordance with the Agreement dated _____ on or before March 1, 2021, and you are to complete the WORK by May 15, 2021.

American Fork City
Owner

ACCEPTANCE OF NOTICE

By _____

Receipt of the above NOTICE TO
PROCEED is hereby acknowledged

Title _____ Mayor _____

By _____

this the ____ day of _____, 2020.

By _____

Title _____

DOCUMENT 005700

WORK DIRECTIVE CHANGE

PROJECT: DATE OF ISSUANCE: _____

OWNER: CITY OF AMERICAN FORK

OWNER'S PROJECT NO.:

CONTRACTOR: _____

CONTRACT FOR: American Fork City – Art Dye Roundabout Project

ENGINEER: Horrocks Engineers

PROJECT NO.: _____

You are directed to proceed promptly with the following change(s):

Description:

Purpose of Change Order:

Attachments: (list documents supporting change)

If a claim is made that the above change(s) have affected Contract Price or Contract Time, any claim for a Change Order based thereon will involve one of the following methods of determining the effect of the change(s).

Method of determining change in Contract Price:

☐ Time and materials

☐ Unit prices

☐ Cost plus fixed fee

☐ Other _____

Method of determining change in Contract Time:

☐ Contractor's records

☐ Engineer's records

☐ Other _____

Estimated increase(decrease) in Contract Price:

\$ _____

If the change involves an increase, the estimated amount is not to be exceeded without further authorization.

RECOMMENDED:

by _____
Engineer

Estimated increase(decrease) in Contract Time: _____ days. If the change involves an increase, the estimated time is not to be exceeded without further authorization.

AUTHORIZED:

by _____
Owner

DOCUMENT 006000

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called
(Corporation, Partnership, or Individual)
Principal, and

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, in the penal sum of _____

_____ Dollars (\$ _____) in lawful money of the
United States, for the payment of which sum, well and truly to be made, we bind ourselves, successors, and assigns,
jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with
the OWNER, dated the ____ day of _____, 20____, a copy of which is hereto attached and made a part
hereof for the construction of:

NOW THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS,
and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such
contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants,
oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the
construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such
WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full
force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of UTAH CODE ANNOTATED SECTION 63G-6-505, as amended, and all liabilities on this bond shall be determined in accordance with said provisions to the extent as if it was copied at length herein.

PROVIDED FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or in the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the SPECIFICATIONS.

PROVIDED FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20____.

ATTEST:

Principal Secretary

By _____
Principal

(Seal)

Address

Witness as to Principal

Address

Surety

ATTEST:

Witness as to Surety

By _____
Attorney in Fact

Address

Address

Note: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

DOCUMENT 006100
PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called
(Corporation, Partnership, or Individual)
Principal, and

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, in the penal sum of _____

_____ Dollars (\$_____) in lawful money of the
United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns,
jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with
the OWNER, dated the ____ day of _____, 20____, a copy of which is hereto attached and made a part
hereof for the construction of:

NOW, THEREFORE if the Principal shall well, truly and faithfully perform its duties, all the undertakings,
covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions
thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty
period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and
save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall
reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default,
then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of UTAH CODE ANNOTATED SECTION 63G-6-505, as amended, and all liabilities on this bond shall be determined in accordance with said provisions to the extent as if it was copied at length herein.

PROVIDED FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or in the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the SPECIFICATIONS.

PROVIDED FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of which shall be deemed an original, this the _____ day of _____, 20____.

ATTEST:

| | |
|-------------------------|-----------|
| _____ | _____ |
| Principal Secretary | Principal |
| (Seal) | By _____ |
| _____ | _____ |
| Witness as to Principal | Address |
| _____ | _____ |
| Address | Surety |

ATTEST:

| | |
|----------------------|------------------|
| _____ | By _____ |
| Witness as to Surety | Attorney in Fact |
| _____ | _____ |
| Address | Address |
| _____ | _____ |

Note: Date of BOND must not be prior to date of Contract If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

DOCUMENT 007000
GENERAL CONDITIONS

SECTION 007314

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC C-700 (2013 Edition). All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

- SC-2.02 Delete Paragraph 2.02.A in its entirety and insert the following in its place:
- H. Owner shall furnish to Contractor up to 5 printed or hard copies of the Drawings and Project Manual and one set in electronic format. Additional copies will be furnished upon request at the cost of reproduction.
- SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.B:
- C. The following reports of explorations and tests of subsurface conditions at or contiguous to the Site are known to Owner:
1. None
- D. The reports and drawings identified above are not part of the Contract Documents, but the "technical data" contained therein upon which Contractor may rely, as expressly identified and established above, are incorporated in the Contract Documents by reference. Contractor is not entitled to rely upon any other information and data known to or identified by Owner or Engineer.
- E. Copies of reports and drawings identified in SC-5.03.C and SC-5.03.D that are not included with the Bidding Documents may be examined at Horrocks Engineers, 2162 West Grove Parkway, Pleasant Grove, Utah during regular business hours.
- SC-5.06 Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:
- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
- B. Not Used.
- SC-6.03 Add the following new paragraph immediately after Paragraph 6.03.J:
- K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 5.04.A.1 and A.2 of the General Conditions:
 - a. State: Statutory
 - b. Applicable Federal (e.g., Longshoreman's): Statutory
 - c. Employer's Liability: \$1,000,000

2. Contractor's General Liability under Paragraphs 5.04.A.3 through A.6 of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of Contractor:
 - a. General Aggregate \$2,000,000
 - b. Products - Completed Operations Aggregate \$2,000,000
 - c. Personal and Advertising Injury \$1,000,000
 - d. Each Occurrence (Bodily Injury and Property Damage) \$1,000,000
 - e. Property Damage liability insurance will provide Explosion, Collapse, and Under-ground coverages where applicable.
 - f. Excess or Umbrella Liability
 - 1). General Aggregate \$3,000,000
 - 2). Each Occurrence \$3,000,000

3. Automobile Liability under Paragraph 5.04.A.6 of the General Conditions:
 - a. Bodily Injury:

| | |
|---------------|--------------------|
| Each person | <u>\$1,000,000</u> |
| Each Accident | <u>\$2,000,000</u> |
 - b. Property Damage:

| | |
|---------------|--------------------|
| Each Accident | <u>\$2,000,000</u> |
|---------------|--------------------|

[or]

 - c. Combined Single Limit of \$2,000,000

4. The Contractual Liability coverage required by Paragraph 5.04.B.4 of the General Conditions shall provide coverage for not less than the following amounts:
 - a. Bodily Injury:

| | |
|---------------|--------------------|
| Each person | <u>\$1,000,000</u> |
| Each Accident | <u>\$2,000,000</u> |

| | |
|---------------------|--------------------|
| b. Property Damage: | |
| Each Accident | <u>\$1,000,000</u> |
| Annual Aggregate | <u>\$2,000,000</u> |

SC-7.06 Add a new paragraph immediately after Paragraph 7.06.O:

- P. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by a particular Subcontractor or Supplier.

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.A:

- B. The Resident Project Representative (RPR) will be Engineer's employee or agent at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall be through or with the full knowledge and approval of Contractor. The RPR shall:
1. *Schedules:* Review the progress schedule, schedule of Shop Drawing and Sample submittals, and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.
 2. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.
 3. *Liaison:*
 - a. Serve as Engineer's liaison with Contractor, working principally through Contractor's authorized representative, assist in providing information regarding the intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
 4. *Interpretation of Contract Documents:* Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
 5. *Shop Drawings and Samples:*
 - a. Record date of receipt of Samples and approved Shop Drawings.
 - b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
 6. *Modifications:* Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions,

together with RPR's recommendations, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.

7. *Review of Work and Rejection of Defective Work:*

- a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
- b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress will not produce a completed Project that conforms generally to the Contract Documents or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

8. *Inspections, Tests, and System Startups:*

- a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
- b. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.

9. *Records:*

- a. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
- b. Maintain records for use in preparing Project documentation.

10. *Reports:*

- a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.
- b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
- c. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, damage to property by fire or other causes, or the discovery of any Hazardous Environmental Condition.

11. *Payment Requests:* Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

12. *Certificates, Operation and Maintenance Manuals:* During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

13. *Completion:*

- a. Participate in a Substantial Completion inspection, assist in the determination of Substantial Completion and the preparation of lists of items to be completed or corrected.
- b. Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied.
- c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work.

C. The RPR shall not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including “or-equal” items).
2. Exceed limitations of Engineer’s authority as set forth in the Contract Documents.
3. Undertake any of the responsibilities of Contractor, Subcontractors, Suppliers, or Contractor’s superintendent.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor’s work unless such advice or directions are specifically required by the Contract Documents.
5. Advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
8. Authorize Owner to occupy the Project in whole or in part.

SC-13.01.B.5.c Delete Paragraph 13.01.B.5.c in its entirety and insert the following in its place:

C. *Construction Equipment and Machinery:*

- 1) Rentals of all construction equipment and machinery, and the parts thereof in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
- 2) Costs for equipment and machinery owned by Contractor will be paid at a rate shown for such equipment in the RENTAL RATE BLUE BOOK , published by EQUIPMENT WATCH. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs. Costs will include the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, shall cease to accrue when the use thereof is no longer necessary for the changed Work. Equipment or machinery with a value of less than \$1,000 will be considered small tools.

SC-13.03.C Delete Paragraph 13.03.C in its entirety and insert the following in its place:

- C. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:
1. if the Bid price of a particular item of Unit Price Work amounts to 5 percent or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 20 percent from the estimated quantity of such item indicated in the Agreement; and
 2. if there is no corresponding adjustment with respect to any other item of Work; and
 3. if Contractor believes that Contractor has incurred additional expense as a result thereof or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, either Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Article 10 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

END OF SECTION

DOCUMENT 007500

SPECIAL PROVISIONS

1-1 GENERAL

The Contractor shall furnish all labor, materials, and equipment necessary or required to complete the work in all respects as shown on the plans, as hereinafter specified, or both. If there is a conflict between requirements of this section and requirements of other sections of these specifications, then the requirements contained in the Special Provisions shall govern.

The CONTRACTOR shall not award WORK to SUBCONTRACTOR(S) in excess of fifty (50%) percent of the CONTRACT PRICE, without prior written approval of the OWNER.

1-2 PROGRESS OF CONSTRUCTION

It is the intention of these contract documents that the progress of the work shall proceed in a systematic manner so that a minimum of inconvenience will result to the public in the course of construction.

Clean-up of all construction debris, excess excavation, excess materials, and complete restoration of all fences, irrigation structures, ditches, culverts, and similar items shall be completed immediately following final grading. The Contractor shall stockpile the excavated material so as to do the least damage to adjacent grassed areas, or fences, regardless of whether these are on private property or public rights-of-way. All excavated materials shall be removed from grassed and planted areas, and these surfaces shall be left in a condition equivalent to their original surface and free from all rocks, gravel, boulders, or other foreign materials. All excavated material 3 inches and larger shall be removed or covered.

Cleanup and grading shall be contingent with and carried on at the same time as pipeline installation, backfill, and excavation. Cleanup and grading activities shall not be further than 200 feet behind the excavation and pipe laying operations. Excavation and backfill and pipeline installation will not be deemed complete until cleanup and grading is approved and satisfactory to the Engineer and property owner.

1-3 CONSTRUCTION SEQUENCE

The Contractor shall give special consideration to scheduling his work to allow traffic to be rerouted where the construction is located in the City's and County's Roads. Adequate signing will be required.

1-4 INTERFERING STRUCTURES AND UTILITIES

The Contractor shall exercise all possible caution to prevent damage to existing structures and utilities, whether above ground or underground. An attempt has been made to show these structures and utilities on the plans. While the information has been compiled from the best available sources, its completeness and accuracy cannot be guaranteed, and it is presented simply as a guide to possible difficulties. The Contractor shall notify all utility offices concerned at least 48 hours in advance of construction operations in which a utility's facilities may be involved. This shall include, but not be limited to irrigation, water, telephone, electric, and gas.

It shall be the responsibility of the Contractor to locate and expose all existing underground structures and utilities in advance of excavation. Any structure or utilities damaged by the work shall be repaired or replaced in a condition equal to or better than the condition prior to the damage. Such repair or replacement shall be accomplished at the Contractor's expense without additional compensation from the Owner.

The Contractor shall remove and replace such small miscellaneous structures as fences and culverts at his own expense without additional compensation from the Owner. The Contractor shall replace these structures in a condition as good or better than their original conditions.

If the Contractor encounters existing structures which will prevent construction and which are not properly shown on the plans, he shall notify the Engineer before continuing with the construction in order that the Engineer may make such field revisions as necessary to avoid conflict with the existing structures. The cost of waiting or "down" time during such field revision shall be borne by the Contractor without additional cost to the Owner. If the Contractor shall fail to so notify the Engineer when an existing structure is encountered, but shall proceed with the construction despite this interference, he shall do so at his own risk. In particular, when the location of a new construction, as shown on the Plans, will prohibit the restoration of existing structures to their original conditions, he shall notify the Engineer so a field relocation may be made to avoid the conflict.

1-5 FIELD RELOCATION

During the progress of construction, it is possible that minor relocations may be necessary. Such relocations shall be made only by direction of the Engineer. Unforeseen obstructions encountered as a result of such relocations will not be subject to claims for additional compensation to the Contractor for any greater extent than would have been the case had the obstructions been encountered along the original location.

1-6 PUBLIC SAFETY AND CONVENIENCE

The Contractor shall comply with all rules and regulations of the County and State authorities regarding the closing of public streets or highways to the use of the public traffic. No road shall be closed by the Contractor to the public except by express permission of the Engineer. Traffic must be kept open on those roads and streets where no detour is possible. The Contractor shall, at all times, conduct his work so as to assure the least possible obstructions to traffic and normal commercial pursuits. All obstructions within traveled roadways shall be protected by approved signs, barricades, and lights where necessary or ordered by the Engineer for the safety of the traveling public. The convenience of the general public and residents and the protection of persons and property is of prime importance and shall be provided for by the Contractor in an adequate and satisfactory manner.

The Contractor shall use every reasonable precaution to safeguard the persons and property of the traveling public. Failure of the Engineer to notify the Contractor to maintain barricades, barriers, lights, flares, danger signals, or watchmen shall not relieve the Contractor from his responsibility. All barricades and obstructions shall be protected at night by signal lights which shall be suitably distributed across the roadway and kept burning from sunset to sunrise. Barricades shall be of substantial construction.

Whenever the Contractor's operations create a hazardous condition, he shall furnish flagmen and guards as necessary or as ordered by the Engineer to give adequate warning to the public of any dangerous conditions to be encountered. He shall furnish, erect, and maintain approved fences, barricades, lights, signs, and any other devices that may be necessary to prevent accidents and to avoid damage and injury to the public. Flagmen and guards, while on duty and assigned to give warning to the public, shall be equipped with approved red wearing apparel and a red flag which shall be kept clean and in good repair.

The Contractor will be required to confine construction operations within the dedicated rights-of-way for public thoroughfares or within areas for which construction easements have been obtained unless he has made special arrangements with the affected property owners in advance. The Contractor will be required to protect stored materials, cultivated trees and crops, and other items located adjacent to the proposed construction site. Property owners affected by the construction shall be notified by the Contractor at least 48 hours in advance of the time construction begins. During all construction operations, the Contractor shall construct and maintain such facilities as may be required to provide access by all property owners to their property. No person shall be cut off from access to his residence or place of business for a period exceeding eight hours unless the Contractor has made special arrangements with the affected persons. The Contractor shall provide for access at all times for livestock

through farm areas; specifically, no portion of farmlands in which livestock are pastured shall be cut from ready access by the farm animals.

1-7 EASEMENTS

Portions of the construction may be located on private property. Easements and permits have been obtained by the Owner. Easements shall provide for the use of property for construction purposes to the extent indicated on the easements. Copies of these easements and permits are available at the office of the Owner for inspection by the Contractor. The Contractor shall confine his construction operations to within the easement limits or street right-of-way limits or make special arrangements with the property owners for the additional area required. Any damage to private property, either inside or outside the limits of the easements provided by the Owner, shall be the responsibility of the Contractor. Before final payment will be authorized by the Engineer at the completion of the construction, the Contractor shall obtain from the permit or easement grantors a release indicating that the work of restoration has been satisfactorily completed in accordance with the terms of the permit or easement. Should it be found impossible for the Contractor to obtain any of the required releases, either because of the absence of the grantors or because of impractical demand by the grantors, then the Engineer may waive this requirement, if, in his opinion, the Contractor has fulfilled his obligations.

1-8 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES

At points where the Contractor's operations are adjacent to or across properties of railway, telegraph, telephone, irrigation or canal, power, gas, and water, or adjacent to other property (damage to which might result in considerable expense, loss and inconvenience), no work shall be started until all arrangements necessary for the protection thereof have been made.

The Contractor shall be solely and directly responsible to the Owners and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of an injury or damage which may result from the carrying out of the work to be done under the contract.

In the event of interruption to either domestic or irrigation water or to other utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority.

He shall cooperate with the said authority in restoration of services as promptly as possible and shall bear all costs of repair. In no case shall interruption of any water, sewer, or utility service be allowed to exist outside working hours unless prior approval is received.

The locations of the major existing water lines, as shown on the Plans, were taken from City maps, and preliminary investigations have indicated they are generally reliable. However, it should be expected that some location discrepancies will occur.

Neither the Owner nor its officers or agents shall be responsible for damages to the Contractor as a result of the locations of the utilities being other than those shown on the plans or for the existence of utilities not shown on the plans.

1-9 LAND MONUMENTS

The Contractor shall preserve existing City, County, State, and Federal land monuments wherever possible. When these monuments cannot be preserved, the Contractor shall notify the Engineer in writing at least two (2) weeks in advance of the proposed construction in order that the Engineer will have ample opportunity to reference these monuments. The Contractor shall replace all monuments as directed by the Engineer.

1-10 SOURCE AND COST OF MATERIALS

All materials furnished or incorporated in this project shall conform to the requirements of these Specifications hereof a part.

The Owner may select areas for disposal of surplus material; however, said area must be approved by the Engineer, and the Contractor will be responsible for acquiring the necessary right, at his own expense, to use the property for such purpose.

1-11 STATE AND FEDERAL INSPECTING AGENCIES

The site of construction is to be open at all reasonable times and places for inspection by accredited representatives of the State or Federal agencies who have regulatory or supervisory authority over any part of the work proposed or related thereto.

1-12 COMPLIANCE WITH SPECIFICATIONS OF MATERIALS OR EQUAL CLAUSE

Unless otherwise specifically provided in the Specifications, all workmanship, equipment, materials, and articles incorporated in the work covered by this contract are to be of the best available grade of their respective kinds. Whenever in the Specifications any material, article, device, product, fixture, form, type of construction, or process is indicated or specified by patent or proprietary name, by name of manufacturer, or by catalog number, such Specifications shall be deemed to be used for the purpose of establishing a standard of quality and facilitating the description of the material or process desired, and shall be deemed to be followed by the words, "or approved equal," and the Contractor may in such case, after the Engineer's approval, purchase and use any time, type, or process which shall be substantially equal in every respect to that so indicated or specified. The Engineer shall be the sole judge as to the equality of the substituted article.

1-13 WATER AND POWER

The Contractor shall be responsible to arrange for and pay all costs for water and power required.

1-14 LINES, GRADES, AND CONSTRUCTION STAKING

All work under this contract shall be built in accordance with the lines and grades as indicated in the Contract Documents. Distances and measurements except elevations and structural dimensions are given and made on horizontal planes.

Basic construction staking for the facilities will be performed by the Engineer. Line and grade stakes for pipelines will be set at a distance 100 foot spacing with an offset that is mutually agreeable to the Contractor and the Engineer. Centerline staking will be provided when warranted at 100 foot intervals and referenced for clearing and grubbing operation. Line and grade stakes for ditches will be set at 100 foot spacing with a mutually agreeable offset. Structures will be staked with two offset points locating two major external corners of the structure.

The Contractor shall be responsible for setting any additional stakes as may be required for the performance of the work.

The Contractor shall make every effort to maintain and protect the survey control points and the construction stakes. If control points or stakes are damaged, or destroyed they will be replaced by the Engineer at the Contractor's expense.

1-15 PERMITS

The Contractor is responsible to obtain all additional required business licenses, building permits, and fees with respect to this Project. It shall be the Contractor's responsibility to notify the respective proprietor for each right-of-way at least 48 hours prior to beginning any work within their right-of-way. The Contractor shall provide bonds as are required by the proprietors of each right-of-way and the Contractor is responsible for fees or charges the proprietors may assess. The cost of the above mentioned items shall be included in the lump sum bid price.

1-16 CONSTRUCTION SCHEDULE AND SCHEDULE OF VALUES

1-16.1 CONSTRUCTION SCHEDULE. The Contractor shall submit to the Engineer three (3) copies of a Critical Path Method, (CPM), type Construction Schedule generally as outlined in the Associated General Contractors Publication "The Use of CPM in Construction", within 15 days of the date of award of the contract. If revisions are required to this initially submitted schedule a revised schedule shall be re-submitted within 7 days after the Contractor receives the review copy.

Prior to the award of the contract, the Contractor shall submit a written statement of his CPM capability, verifying that the Contractor has qualified CPM consultant.

The completed schedule shall include a graphic network and tabulated schedules with the graphic network displayed on a sheet with a minimum size of 11" x 17" and a maximum size off 36" x 60". The graphic network shall be the activity on arrow type form of a time scaled arrow diagram. It may be divided into two or more sheets, if necessary, provided that all sheets are properly referenced. Notation on each activity arrow shall include a brief work description and an estimate of the time duration of the work. A calendar shall be shown along the full length of each sheet. Each activity arrow shall be plotted so that the beginning and completion dates can be readily determined by comparison to the calendar scale. All activities shall be shown using symbols and/or color which clearly designate whether it is a critical path or non-critical activity. All non-critical path activities shall show estimated work time and free float time. Time shall be displayed at the top of the schedule, reading left to right, with no greater than weekly divisions.

The schedule shall indicate dates for all important activities including:

1. Shop drawing submittals and reviews
2. Decisions
3. Product procurement and delivery
4. Beginning and completion of each element of construction
5. Critical coordination dates with Utility Companies, etc.
6. Submittal of Record Drawings and Equipment Manuals
7. Cleanup, Final Inspection, etc.

Constraints between inter-related activities shall be shown.

Where float time exists in activities, the activities shall be shown with early start/early finish times. Float time belongs to the Owner.

The schedule shall include a title block with the project title, the Contractor's business name, the date of submittal or revision, and the signature of the Contractor's authorized representative.

If the Contractor's progress has fallen behind the acceptable Construction Schedule, the Contractor shall take such steps as may be required, including but not limited to, increasing the number of personnel, shifts, overtime operations, days of work, and amount of construction equipment until such time as the work is back on schedule. All increased costs of any accelerated work program shall be paid for by the Contractor.

1-16.2 REVISIONS TO CONSTRUCTION SCHEDULE. The Contractor shall submit a revised Construction Schedule by the third day of each month and within five days of the occurrence of any of the following:

- A. When delay in completion of any activity or group of activities indicates an overrun of the Contract time or control point requirement, by 10 working days or ten percent (10 percent) of the remaining duration, whichever is less.
- B. Delays in submittals, deliveries, or work stoppage are encountered which make replanning or rescheduling of the work necessary.
- C. The schedule does not represent the actual prosecution and progress of the project as being performed in the field and progress for any activity is five working days behind the current schedule.
- D. The Contractor will be performing work at an earlier date than is shown on the schedule and the work will require additional inspection and/or testing personnel.

Acceptance of the revised Construction Schedule and all supporting data is contingent upon compliance with other related requirements specified in the Special Conditions.

The cost of revisions to the Construction schedule resulting from Contract changes will be included in the cost for the change in the work, and will be based on the complexity of the revision or Change Order, and the total cost of the change.

The cost of revisions to the construction schedule not resulting from authorized changes in the work shall be the responsibility of the Contractor.

1-16.3 SCHEDULE OF VALUES. In conjunction with the submittal of the Construction Schedule, the Contractor shall submit a cash flow projection indicating his estimated earnings by month during the entire contract period and a schedule of values of the work, using the attached form, or approved alternate, including quantities and unit prices. The aggregate of these extended prices shall equal the Lump Sum Contract Price. This schedule shall be satisfactory in form and substance to the Engineer and shall subdivide the work into the specified component parts. In addition, the schedule will be used as a basis for negotiating change orders. Upon approval by the Engineer, the schedule shall be incorporated into the form for Application for Payment, and shall become the basis for preparing monthly pay estimates.

Where so specified, a structure, system, or facility shall be broken down into components of work related to the Divisions of the Specifications. The cost for work specified in each Division shall be listed and the sum of the Division costs shall represent the total cost for such structure, system, or facility.

1-17 APPROVAL OF WORKING DRAWINGS

The Contractor shall submit, in quadruplicate, to the Engineer for his approval such shop or working drawings and/or catalog cuts for fabricated items and manufactured items, including mechanical and electrical equipment, as may, in the opinion of the Engineer be required for the construction of the work or any part thereof.

Drawings shall be submitted sufficiently in advance to allow the Engineer not less than ten regular working days for examining the drawings.

These drawings shall be accurate, distinct and complete and shall contain all required information, including satisfactory identification of items, unit's assemblies in relation to the contract drawings and/or specifications.

When the shop drawings are approved by the Engineer, two sets of prints will be returned to the Contractor. If changes or corrections are necessary, one set will be returned to the Contractor with such changes or corrections indicated by a brief statement and the Contractor shall correct and resubmit the drawings, in triplicate, when requested by the Engineer.

The approval of such drawings and/or catalog cuts by the Engineer shall not relieve the Contractor from the responsibility for correctness of dimensions, fabrication details and space requirements, or for deviations from the contract drawings or specifications, unless the Contractor has called attention to such deviations in writing by a letter accompanying the drawings and the Engineer approves the change or deviations in writing at the time of submission; nor shall approval by the Engineer relieve the Contractor from the responsibility for errors in the shop drawings. When the Contractor does call such deviations to the attention of the Engineer, the Contractor shall state in his letter whether or not such deviations involve any deduction or extra cost adjustment.

1-18 MANUFACTURER'S DIRECTIONS

All manufactured items, articles, materials, and equipment, shall be applied, installed, connected, erected, used, cleaned, and conditioned as directed by the manufacturer's written instructions, unless herein specified to the contrary.

At the termination of the work, the Contractor shall submit three complete sets bound in the best grade, hard-backed binder of all operating and maintenance instructions presenting full details for care and maintenance of all visible surfaces and all mechanical and electrical equipment installed. The sets shall include the following information:

- Complete description of items including catalog numbers.
- Complete parts list for each item.
- Name and address of local supplier.
- Name and address of manufacturer.
- Complete operating instructions.
- Complete maintenance instructions.

1-19 EQUIPMENT AND MATERIALS SELECTION

Equipment and materials specified by name in these specifications or on the plans have been investigated and found suitable for the service and/or construction conditions anticipated. However, names are given primarily as a guide; bidding is not intended to be restrictive only to the extent of obtaining equipment and materials which will properly and effectively do the job. Manufacturers of competitive equipment are invited to submit requests to the Engineer for permission to bid their equipment. Such requests must be received by the Engineer at least 2 days prior to the bid opening and must be complete with the information necessary to properly evaluate the ability of the alternate equipment to meet the requirements of the project. Information should include specification data, materials of construction, dimensions, performance curves and data, location of nearest representative and service personnel, and all other pertinent information. If alternative equipment or materials are approved, the Contractor shall, at his expense, make any changes in the structures, buildings, piping or other necessary to accommodate the alternate items.

1-20 ENGINEER

Any reference in these specifications or on the plans to the "Engineer" shall be interpreted to mean "Horrocks Engineers", Consulting Engineers for the project. This may be a principal of the firms or an authorized representative.

1-21 INCIDENTAL WORK

Work which is intended or required, whether described and detailed specifically in these specifications or not, but which is required to complete the work shall be paid for by the Contractor. Cost for incidental work shall be included in unit prices or lump sums bid according to the Bid Schedule.

1-22 GUARANTEE PERIOD

Should any defect arise with the work such as leaks, breaks, etc., for a period of one (1) years from the date of project acceptance, the Contractor shall restore the work to the complete satisfaction of the Owner at the expense of the Contractor.

In the event of settlement of trenches or excavated areas for a period of one (1) years after written acceptance of the work, the Contractor shall restore the work in accordance with these Specifications including importing select backfill, grading of trench areas and/or replacement of pavement to the satisfaction of the Owner.

Performance bonds shall remain in full force and effect until expiration of the guarantee period and written release by the Owner.

1-23 COMPLIANCE WITH GOVERNMENTAL REGULATIONS

The Contractor's equipment and operations shall comply fully with all applicable standards, regulations and requirements of existing Federal, Utah State and Local governmental agencies. This shall include, but not necessarily be limited to, the following:

UTAH OCCUPATIONAL SAFETY AND HEALTH ACT (1973) and EMPLOYER-EMPLOYEE SAFE PRACTICES FOR EXCAVATIONS AND TRENCHING OPERATIONS (Jan. 1, 1974) as published by Industrial Commission of Utah, including any and all amendments or revisions effective prior to performance of the work.

In compliance with Section 34-30-1 and as revised in 71-10-1 of the Utah Code, in employing individuals to perform work under this contract, the contractor shall give preference to citizens of the United States or those having declared their intention of becoming citizens. If the contractor fails to comply with the requirements of Section 34-30-1 of the Utah Code, this contract shall be void.

In compliance with Section 34-30-11 of the Utah Code, in employing individuals for work under this contract, the contractor shall give preference to honorably discharged veterans and unremarried surviving spouses of honorably discharged veterans, provided that such veterans or surviving spouses are qualified for the employment position and are residents of the State of Utah

1-24 UNEMPLOYMENT INSURANCE

In addition to insurance elsewhere specified, the Contractor shall secure and maintain UNEMPLOYMENT INSURANCE to cover all persons he employs on the project.

1-25 EXAMINATION OF THE SITE

The Bidder shall examine the site before submitting his proposal and inform himself regarding existing facilities and conditions affecting the proposed work. Failure to make such inspection shall in no way relieve the Contractor of any of the obligations or conditions of this specification or serve in any way as a basis for extra enumeration to the Contractor for conditions arising from unfamiliarity with the site or conditions affecting the work.

1-26 CONTRACT LIMITS

"Qualified" or "All or nothing" type bids may be rejected by the Owner.

Upon award of Contracts to more than one Contractor, it shall automatically become binding upon each Contractor or Subcontractor to coordinate his work with the other Contractor or Subcontractors. Each Contractor agrees, that upon signing a Construction Contract with the Owner, he will assume the responsibility of coordinating his part of the work with other Contractors, and that he will make no charges against the Owner for delays resulting from lack of coordination and/or scheduling.

1-27 CONSTRUCTION SCHEDULING AND COMPLETION TIME

The Contractor shall schedule his work in a manner to provide minimal disruption to any existing water service to all water users on the water system. The Contractor shall propose an acceptable method of completing this task in his construction schedule.

1-28 LIQUIDATED DAMAGES

If the work is not completed in accordance with the above schedule, the Contractor shall pay to the Owner, as fixed and agreed liquidated damages, the sum of \$1,000 for each consecutive calendar day after the scheduled completion dates.

1-29 INSPECTIONS

The Contractor shall keep the Engineer informed a reasonable time in advance of the times and places at which he intends to do work in order that lines and grades may be furnished, that inspection may be provided, and that necessary measurements for record and payment may be made with the minimum of inconvenience to the Engineer or of delay to the Contractor. Prior to inspection the Contractor shall check his work to assure that quality and tolerances of work specified have been met.

Prior to the construction of any phase or portion of work that will be a finished product, an inspection will be performed by the Engineer and the Engineer or his agent will sign an inspection report indicating location, time, date and any changes from the plans, that the Contractor is in compliance with the plans and specifications at this phase or portion of the work. If the Contractor's work is found not to be in compliance, corrections shall be made and the Engineer shall make another inspection.

1-30 PROJECT RECORD DOCUMENTS

The Contractor shall maintain at the site, available to the Owner and Engineer, one copy of all Drawings, Specifications, Addenda, accepted Shop Drawings, Change Orders, and other modifications in good order and marked to record all changes made during construction. These shall be delivered to the Engineer for the Owner upon completion of the Project.

1-31 EXISTING SERVICE TO PROPERTY OWNERS

Existing water service and access to all property owners shall be maintained and be uninterrupted as is possible.

Before connections that require disruption of the water supply to all or part of the system users are made, 24 hour notice must be given to the Engineer and affected users. Disruptions shall not exceed 6 hours in length of time. Major disruptions, as defined by the Engineer shall only be made between the hours of 11 p.m. and 5 a.m.

1-32 SUSPENSION OF WORK

The Engineer shall have the authority to suspend the work wholly or in part, for such period as he may deem necessary, due to unsuitable weather, or to such other conditions as are considered unfavorable for the suitable prosecution of the work, or for such time as he may deem necessary due to the failure on the part of the Contractor to carry out orders given, or to perform any provisions of the Contract. The Contractor shall immediately comply with the written order of the Engineer to suspend the work wholly or in part. The suspended work shall be resumed when conditions are favorable and methods are corrected, as ordered or approved in writing by the Engineer.

In case of suspension of work, the Contractor shall be responsible for all materials and shall properly store them as necessary.

1-33 CHARACTER OF WORKMEN

Whenever, in the opinion of the Engineer any superintendent, foreman, or workman employed by the Contractor or his subcontractor is disrespectful, intemperate, disorderly, or otherwise objectionable, he shall, at the written request of the Engineer, be removed and not again be employed on the work without written consent of the Engineer.

Convict labor shall not be used in State-assisted construction unless it is labor performed by convicts who are on work release, parole, or probation.

1-34 SANITARY FACILITIES

The Contractor shall provide suitable chemical toilets or water closets at points acceptable to the Engineer for use of employees on this work. At the end of the job such toilets shall be removed completely.

1-35 PROTECTION OF ANTIQUITIES

Attention is called to State and Federal laws pertaining to the protection and preservation of sites or objects of archeological, paleontological, or historic interest.

It is a provision of this contract and shall be a provision of every subcontract that when features of archeological, paleontological, or historic interest are encountered or unearthed in material pits, the roadway prism, or other excavation the contractor shall stop work in the immediate vicinity of such feature, protect it from damage or disturbance, and report promptly to the state and local officials having jurisdiction.

Work shall not be resumed in the immediate area until the contractor is advised by the authorities having jurisdiction that study and/or removal of the feature or features has been completed. The contractor will be allowed an appropriate contract time extension as provided in the GENERAL CONDITIONS for construction time lost.

1-36 DUST CONTROL/PROJECT CLEANUP

During the performance of work required by these specifications, or any operations appurtenant thereto, and whether on rights-of-way provided or elsewhere, comply with applicable Federal, State, and local laws and regulations, regarding the prevention, control, and abatement of dust pollution. Should a conflict exist in the requirements for dust abatement, the most stringent requirement shall apply. The Contractor is responsible for all damages resulting from dust originating from any construction operations under these Specifications.

The Contractor shall provide all labor, equipment, and materials, and shall use efficient methods wherever and whenever required to prevent dust nuisance or damage to persons, property, or activities, including, but not limited to, crops, orchards, cultivated fields, wildlife habitats, dwellings and residences, agricultural activities, recreational activities, traffic and similar conditions. This will primarily consist of periodic watering of equipment

staging areas and dirt roads used during construction. Methods of mixing, handling, and storing cement, pozzolan, and concrete aggregate shall include means of eliminating atmospheric discharges of dust.

The Engineer has authority to stop any construction activity contributing to dust levels which are excessive or in violation of Federal, State, or local laws. All expenses resulting from such a work stoppage is the responsibility of the Contractor.

Throughout the period of construction keep the work site free and clean of all rubbish and debris, and promptly remove from any portion of the site, or from property adjacent to the site of the work and properly dispose of, all unused materials, surplus earth and debris, excepting select material which may be required for refilling or grading. Comply with applicable Federal, State and local laws and regulations. Should a conflict exist in the requirements for cleanup and disposal of waste materials, the most stringent requirement shall apply. Roads shall be swept prior to completing each day's construction activities by sweeping or other approved method.

Contractor progress cleaning program will include using sweeper with vacuum truck twice a day to keep the streets clean. The OWNER or ENGINEER reserves the right to shut down the CONTRACTOR with no extension of time or cost to the contract if the project progress cleaning is not being done.

Upon completion of the work and prior to final acceptance of the project remove from the vicinity of the completed work and properly dispose of all plant, surplus material, and equipment belonging to him or used under his direction during construction.

1-37 NOISE LEVELS IN THE CONSTRUCTION AREA

Comply with applicable Federal, State, and local laws, orders, and regulations concerning the prevention, control, and abatement of excessive noise. The Contractor will monitor construction noise levels and will take corrective action if noise levels are greater than 85 dBA within the construction area.

The location of "sensitive receptors" such as schools, churches, nursing homes, and residential areas will be considered when scheduling construction activities with significant noise levels, and in siting temporary and stationary post-project noise emission sources.

1-38 DRAINAGE CONTROL

In excavation, fill, and grading operations care shall be taken to disturb the pre-existing pattern as little as possible. Particular care shall be taken not to direct drainage water onto private property or drainage ways inadequate for the increased flow.

1-39 TRAFFIC SAFETY SUPERVISOR

The Contractor shall assign one person to be a traffic safety supervisor. The person's primary responsibility shall be to ensure that traffic signals, signs, barricades, and any other traffic control devices are placed, moved, and maintained as needed. Refer to Section 02010.

1-40 COMPLIANCE WITH ENVIRONMENTAL REGULATION

A. Comply with applicable Federal and State laws, orders, and regulations concerning the control and abatement of water pollution. This includes the following federal and state standards for water pollution control.

1. UPDES Permit

Discharge of wastewater or other pollutants, as a result of construction activities, into navigable waters in Utah, requires a 402 or UPDES permit defined under Section 402 of the Clean Water Act, Public Law 92-500, as amended by Public Law 95-217. The UPDES permit process is administered by the State of Utah, Utah Department of Environmental Quality (UDWQ), Division of Water Quality, 288 North 1460 West, Salt Lake City, Utah 84116, (801) 538-6146.

Submit a Notice of Intent to comply with the Federal Clean Water Act, Section 402 UPDES General Permit during the construction of the Project. The Contractor shall complete any project specific permit applications and other requirements specified by UDWQ and obtain any project specific UPDES permits. The UDWQ has indicated that it may take about one month to process a project specific UPDES permit. No construction dewatering may be performed until the project specific UPDES permit is obtained. The Contractor shall abide by the conditions and standards required by the UPDES General Permit and any UPDES project specific permit during all phases of construction.

- a. Prepare a Pollution Prevention Plan as required by the permit. Comply with all terms and conditions to obtain and maintain this general permit.
- b. Provide all monitoring and water treatment, if necessary, to achieve compliance with applicable Water Quality Standards, and shall provide the record keeping required by the general permit associated with construction activity.

2. Turbidity and pH Control

Turbid wastewater resulting from aggregate processing, excavation, dewatering, and other construction activities shall be treated prior to discharge into any watercourse by the use of methods approved by the Construction Manager and UDWQ. No discharge of human waste will be allowed; portable toilets shall be provided by the Contractor for workers. The portable toilets shall be serviced on a regular basis.

- a. Construction Activities. Excavation, road construction, stream diversion activities, and all other construction activities shall be conducted in a manner to prevent muddy water and eroded materials from entering other streams and rivers and tributaries, any watercourse, canal or ditch by the construction of intercepting ditches, barriers, settling ponds, or other approved means. Provide sumps, pumps, and associated facilities, as described in Water Quality Management Plan. Excavated materials will be hauled to a storage area on the pipeline or canal alignments, out of the floodplain and not within 25 feet (7.6 meters) of wetlands. When necessary to perform required construction in the stream channel or in flowing water, such work will be conducted during periods of low flow. Work in the stream channel shall be scheduled and completed in the shortest practicable time period.

Mechanized equipment shall not operate in flowing water except as necessary to construct crossings or to perform the construction. Such work shall be approved by the Engineer prior to the equipment entering a stream or other water body.

The Contractor's methods of dewatering and stockpiling earth shall include preventive measures to control silting and erosion and to intercept any runoff originating in construction areas.

- b. Construction Wastewater. Construction wastewater resulting from materials processing, placement of concrete, dewatering, excavations, drainage at the excavated material disposal and storage sites, drainage water from constructing water control equipment, waste sludge, the cleaning of heavy equipment used in construction, and other construction operations shall be conveyed to the treatment facility prior to the discharge to waters of the United States. Discharge of wastewater to waters of the United States shall be treated by use of the proposed treatment facility described in this document. The Contractor may propose an alternative method of wastewater treatment. Alternative methods must be approved by Owner and UDWQ and shall be fully described in the Contractor's Water Quality

Management Plan. All discharge shall be in compliance with the Federal Clean Water Act, Section 402 UPDES General Permit.

The acceptable water treatment method furnished shall have a minimum capacity to (1) treat up to a minimum of 5 cubic feet per second (cfs) (0.14 cubic meter per second) of wastewater, (2) be able to reduce the turbidity in the effluent to no more than 10 NTU over background levels of the receiving water, (3) be able to maintain a pH of the effluent between 6.5 and 9.0, and (4) be able to remove accumulations of oil or other petroleum products from the wastewater to a level of 10 parts per million (milligrams per liter).

Flows from the dewatering operation may require holding ponds to provide the necessary detention period. If construction wastewater can be contained in ponds or other holding facilities and allowed to seep into the ground or evaporate, then no treatment will be necessary.

The pond dikes shall be constructed of impervious materials and adequately compacted with 2 feet of freeboard to provide protection from accidental discharges. The location, size, and method of construction of ponds shall be submitted to the Engineer and the UDWQ as part of the Water Quality Management Plan. Construction of the ponds shall not commence until receipt of approval.

Any turbidity control methods shall be provided with bypass equipment to discharge clear wastewater flows to the stream if such water has turbidity levels less than 10 NTUs above background level of the receiving water and a pH value between 6.5 and 9.0. The decision to bypass water treatment facilities shall be subject to approval by the Engineer and UDWQ as provided in the UPDES permit.

All chemicals used for treating wastewater must be approved by the EPA for use in potable water. Also, the types and amounts of chemicals used in any approved method for the control of turbidity or pH shall not cause the effluent to be toxic or in any way harmful to terrestrial wildlife or aquatic life.

Skim and properly dispose of any oil or other petroleum product on any settling pond when an oil film on the surface of any pond covers more than one-third of the surface area of the pond. When sludge or settled materials in ponds accumulate so as to impair the effectiveness of the facilities, the materials shall be removed and transported to a waste disposal area.

Satisfactorily operate any wastewater treatment facilities such that they provide effluent that meets required UPDES permit limitations. The approval of the Contractor's proposal by the Engineer shall not be construed to relieve the Contractor from this responsibility. Repair at his expense, any damage to or failure of the facilities and equipment caused by floods or storm runoff.

Should the wastewater discharge exceed a turbidity measurement (10 NTUs), or the pH limitations, or limitations on oil and grease within the general UPDES permit, the Construction Engineer will have the authority to immediately halt the discharge from the facilities until the effluent meets the limitations of the UPDES permit.

B. Stream Alteration Permit

A stream alteration permit if required for this project, will be furnished by the Owner.

C. Spill Prevention Control and Countermeasure (SPCC) Plan

Where the location of a construction site is such that inadvertent spills of petroleum or other toxic substances could reasonably be expected, a SPCC plan will be developed. These areas shall include, but not be limited to, fuel storage sites, equipment maintenance areas, and equipment fueling and lubricating sites.

The SPCC plan shall include as a minimum the following:

1. Agency Notification Requirements. A listing of persons and/or offices to be notified immediately following an oil spill together with the appropriate telephone numbers. The following agencies and/or individuals shall be included in that list:

Utah Department of Environmental Quality
Division of Environmental Response and Remediation
289 North 1950 West
Salt Lake City, Utah (801) 538-6146
24-hour Emergency Phone: (801) 536-4123

Environmental Protection Agency
Attn: Water Management Division
999 18th Street, Suite 500
Denver, Colorado 80202-2466
24-hour Emergency Phone: (800) 424-8802

(Failure to notify EPA of an accidental spill within 24 hours of its occurrence may result in the levying of a fine against the responsible party.)

U.S. Fish and Wildlife Service
145 East 1300 South, Suite 404
Salt Lake City, Utah 84115
(801) 524-5001
After hours contact National Response Center (800)424-8802

2. Spill Prevention Measures. Spill prevention measures shall include the following:
 - a. A site plan indicating oil fuel storage areas, refueling areas, and other areas where oil and other petroleum products would be used or handled. The site plan will also show the distance to all watercourses (perennial or intermittent) or other bodies of water where oil could be directly or indirectly spilled. Oil and fuel storage areas and refueling areas shall not be located within the 200-foot (61 meter) buffer zone of any live or dry watercourse. No petroleum products (gasoline, oils, hydraulic fluid, lubricants, etc.) shall be stored within the area of construction or materials marshaling areas. Use a vehicle designed for refueling and lubricating construction equipment. During refueling, lubricating, and other maintenance, construction vehicles and equipment shall be moved at least 200 feet (61 meter) from the edge of any live or dry watercourse.
 - b. The plan shall include appropriate containment methods to prevent oil or other petroleum products from reaching any watercourse. At a minimum, the preventive system shall include:
 - i. No oil, oil storage areas, or areas for refueling equipment will be located in construction and materials storage areas.
 - ii. Refueling and lubricating of equipment will be performed by a vehicle designed for this activity.
 - c. The plan shall include a complete discussion of conformance with the following guidelines:
 - i. Job-site drainage system shall flow into ponds, lagoons, or other catchment basins that are not subject to periodic flooding and engineered to prevent oil from reaching any watercourse or adjacent shorelines in the event of equipment failures or human error.
 - ii. All oil or fuel leaks from equipment shall be promptly cleaned up.

- d. Contingency and Countermeasures. In the event of an oil spill into a watercourse, other body of water, or adjacent shorelines of watercourses, contingency and countermeasures shall include as a minimum the following:
 - i. A commitment of manpower, materials, and equipment to expeditiously control and remove the spilled oil or fuel.
 - ii. A commitment to place all available manpower, materials, and equipment into immediate use to cleanup and restore the affected watercourses and their adjoining shorelines.
 - iii. A sampling-monitoring program to document the effectiveness of the spill cleanup program. Proper sampling equipment, sampling procedures, and name of the certified laboratory analyzing the samples shall be included.
- e. Sanitation and Potable Water Requirements. Provide portable toilets for workers. No discharge of human wastewater shall be allowed. Provide potable water for workers.
 - i. Prepare a Pollution Prevention Plan as required by the permit. Comply with all terms and conditions to obtain and maintain this general permit.
 - ii. Provide all monitoring and water treatment, if necessary, to achieve compliance with applicable Water Quality Standards, and provide the record keeping required by the general permit associated with construction activity.

D. Water Quality Management Plan

Prepare a Water Quality Management Plan which shall include, but not be limited to, the following:

- a. Identification of a Pollution Control and Water Quality Coordinator responsible for implementing the control measures in the management plan.
- b. Treatment of nonpoint discharges:
 - i. A list of materials, machinery, and manpower available for erosion control. Erosion control materials may include bales of straw, dikes, riprap, gabions, culverts, pipe, sandbags, gravel, plastic, and flexible downdrains. Quantities of material and equipment shall be included.
 - ii. Site-specific control plan for:
 - contractor's camps, yards, and all work areas
 - equipment washing areas
 - fueling
 - excavated material storage areas and waste disposal areas
 - stream diversion
 - iii. Methods for diversion and care of stream during construction:
 - projected schedule for all work in streams
 - identification and location of stream diversion structures such as cofferdams and dikes
 - sources of materials for stream diversion structures
- c. Treatment of point discharges:
 - i. Methods for treatment of water used and/or encountered during construction.

ii. Proposed plan for water treatment facilities including:

- location, capacity, size, and method of constructing ponds and water conveying system
- complete design and construction details of the water treatment plant, if proposed
- arrangement for the turbidity and pH control structures
- method for conveying untreated water to the control structures or treatment plant and water from these facilities to the authorized discharge point
- method of storing and disposing of sludge, settling pond residue, or backwater residue accumulation
- description of chemicals to be used in the water treatment facilities
- methods of handling and disposing of oil and other petroleum products, chemicals, and similar industrial wastes collected within the treatment facility
- other salient features

d. Monitoring Program. A complete description of a daily and weekly water quality monitoring program developed to meet the UPDES permit requirements.

1-41 TEMPORARY ACCESS ROADS AND BORROW AREAS

Except for those access roads and borrow areas specifically covered in these specifications, the approval of the Engineer must be obtained in advance before locating additional access roads or borrow areas on any land. Mark on the ground proposed locations for approval by the Engineer in advance of construction.

- A. Temporary access road. To prevent excessive erosion, no grades in excess of 8 percent shall be used, except those which are approved in writing by the Engineer. Generally, back slopes of cut banks shall be stable and compatible with existing topography, except where rock is encountered and such slopes shall be flattened and rounded into the natural ground surface so far as practicable. Suitable devices and drainage structures shall be installed in sufficient number to prevent accumulation of excessive water and erosion of the road surface, drainage ditches, and scarred areas.
- B. Borrow areas for temporary access roads. Borrow areas shall be treated as follows: Topsoil shall be stripped from the excavated areas and deposited in storage piles apart from other excavated material. After the desired amount of material has been removed, evenly grade and properly slope the sides and bottom of all borrow pits, as directed by the Construction Manager. Tracks or marks of heavy equipment or other disturbed earth shall be smoothed or filed to the surrounding level. After the pit has been graded and properly sloped, the stored topsoil shall be evenly spread over the subsoil exposed by the excavation. All materials unsuitable for construction purpose shall be disposed of as directed by the Engineer.

Certain areas are reserved for recreational development. These areas are marked on the ground or indicated on drawings or maps. Do not operate mechanized equipment or vehicles within these restricted areas without written authorization from the Engineer. The Contractor is responsible for all restoration costs and all damages resulting from any unauthorized operations within these areas.

END OF SECTION

DOCUMENT 009900

CONTRACT CHANGE ORDER

Project: American Fork City – Art Dye Roundabout Project.

Date _____

Location: American Fork City

Change Order No.:

To:

You are hereby requested to comply with the following changes from the contract plans and specifications:

| Item No. | Description of Changes, Quantities, Units, Unit Prices, Change in Completion Schedule, etc. | Decrease In Contract Price | Increase In Contract Price |
|----------|---|----------------------------|----------------------------|
| | | | |
| | | | |
| | | | |
| | Change in contract price due to this Change Order: | | |
| | Total Decrease | | |
| | Total Increase | | |
| | Difference between Col. 3 & 4 | | |
| | Net (increase) (decrease) | | |

The sum of \$ _____ is hereby added to (deducted from), the total contract price and the total adjusted contract price to date thereby is \$ _____.

The time provided for completion in the contract is unchanged, increased (decreased) by ____ calendar days. This Document shall become an amendment to the contract & all provisions of the contract will apply hereto.

Accepted by:

Contractor

Date

Recommended by:

Project Engineer

Date

Approved by:

Owner

Date

DOCUMENTS 009950

WAIVER OF LIEN

Contractor is required to comply in all respects to the State Construction Registry requirements for preserving lien rights as established by House Bills 136 (2004) and 105 (2005). Contractors are required to inform all subcontractors and suppliers of their need to comply with the same requirements in order to protect their right to file a lien. Please see the State Construction Registry at www.scr.utah.gov for additional information.

At project closeout and prior to final payment the contractor shall provide full and final release using the following format for themselves and all subcontractors and suppliers on the project.

FULL AND FINAL RELEASE

FROM: ("Contractor/Developer")

PROJECT:

(name of person or firm responsible
for project)

(Project Name)

(street address)

(Project street address)

(City, State, Zip Code)

(City, State, Zip Code)

**TO: American Fork City
31 E Main Street
American Fork, Utah 84003**

The above named person or firm (herein called the ("**Contractor/ Developer**")), by the person signing below, hereby certifies that it has made payment in full for all labor, subcontract work, equipment, and materials supplied to the above-described Project, and hereby waives and releases all mechanics liens, stop notices, equitable liens, and labor and material bond rights on the Project for all materials, supplies, labor, and services purchased, acquired, or furnished by or for the Contractor/Developer and used on the Project up to and including:

The Contractor/Developer further agrees to furnish a good and sufficient waiver of lien on the Project from every person or entity furnishing labor or materials for the Contractor/Developer. The Contractor/Developer also agrees to indemnify, defend, and hold harmless American Fork City from and against any and all claims or liability whatsoever that may arise as a result of the Contractor/Developer's failure to properly, timely, and/or fully pay all laborers, suppliers, subcontractors, or other parties performing work on the Project on behalf of, through, or at the request of the Contractor/Developer.

In signing this document, I hereby represent and warrant that I am fully authorized by the Contractor/Developer named first above to represent and bind it by my signature below.

CONTRACTOR/DEVELOPER

WITNESS:
ADDRESS:

BY:
DATE:

SECTION 010100

SUMMARY OF WORK

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Identification and summary description of the Work, location, products furnished by Owner, activities by others, coordination, and early occupancy by Owner.

1.02 THE WORK

- A. The Work consists of construction of the American Fork City – Art Dye Roundabout Project, which generally consists of installation of storm drain, aggregate base course, curb and gutter, sidewalk, asphalt pavement, signing and striping, and landscaping, along with any applicable removals required to complete the work.
- B. Except as specifically noted otherwise, provide and pay for:
 - 1. Insurance and bonds.
 - 2. Labor, materials, and equipment.
 - 3. Tools, equipment, and machinery required for construction.
 - 4. Utilities required for construction.
 - 5. Other facilities and services necessary for proper execution and completion of the Work.
- C. Secure and pay for all permits including County and OSHA excavation permits, Department of Transportation permits, government fees and licenses.
- D. Comply with codes, ordinances, regulations, orders, and other legal requirements of public authorities having bearing on the performance of the Work.

1.03 LOCATION OF PROJECT

- A. The Work is located in the City of American Fork.

1.04 PRODUCTS FURNISHED BY OWNER

- A. None.

1.05 ACTIVITIES BY OTHERS

- A. Owner, utilities, and others may perform activities within Project area while the Work is in progress.
 - 1. Schedule the Work with Owner, utilities, and others to minimize mutual interference.

1.06 COORDINATION OF WORK

- A. Maintain overall coordination of the Work.

- B. Obtain construction schedules from each subcontractor, and require each subcontractor to maintain schedules and coordinate modifications.
- C. Attend weekly progress/coordination meetings with City, Engineer, other contractors, and affected parties.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 012500

SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality assurance.
- B. Product options.
- C. Product substitution procedures.

1.2 QUALITY ASSURANCE

- A. Contract is based on products and standards established in Contract Documents without consideration of proposed substitutions.
- B. Products specified define standard of quality, type, function, dimension, appearance, and performance required.
- C. Substitution Proposals: Permitted for specified products except where specified otherwise. Do not substitute products unless substitution has been accepted and approved in writing by Owner.

1.3 PRODUCT OPTIONS

- A. Not Used.

1.4 PRODUCT SUBSTITUTION PROCEDURES

- A. Engineer will consider requests for substitutions only within 30 days after date established in Notice to Proceed.
- B. Substitutions may be considered when a product becomes unavailable through no fault of Contractor.
- C. Document each request with complete data, substantiating compliance of proposed substitution with Contract Documents, including:
 - 1. Manufacturer's name and address, product, trade name, model, or catalog number, performance and test data, and reference standards.
 - 2. Itemized point-by-point comparison of proposed substitution with specified product, listing variations in quality, performance, and other pertinent characteristics.
 - 3. Reference to Article and Paragraph numbers in Specification Section.
 - 4. Cost data comparing proposed substitution with specified product and amount of net change to Contract Sum.
 - 5. Changes required in other Work.
 - 6. Availability of maintenance service and source of replacement parts as applicable.
 - 7. Certified test data to show compliance with performance characteristics specified.
 - 8. Samples when applicable or requested.
 - 9. Other information as necessary to assist Architect/Engineer's evaluation.

- D. A request constitutes a representation that Bidder or Contractor:
 - 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 - 2. Will provide same warranty for substitution as for specified product.
 - 3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
 - 5. Will coordinate installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.
 - 6. Will reimburse Owner for review or redesign services associated with reapproval by authorities having jurisdiction.
- E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals without separate written request or when acceptance will require revision to Contract Documents.
- F. Substitution Submittal Procedure:
 - 1. Submit three copies of Request for Substitution for consideration. Limit each request to one proposed substitution.
 - 2. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
 - 3. Engineer will notify Contractor in writing of decision to accept or reject request.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 013000

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and Project conditions.
- B. Preconstruction meeting.
- C. Site mobilization meeting.
- D. Progress meetings.
- E. Closeout meeting.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various Sections of Project to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later. Coordinate with the Piping Contractor for the connection points at the construction limits. Verify timing, location and elevations of the pipes.
- B. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate Work of various Sections having interdependent responsibilities for installing, connecting to, and placing operating equipment in service.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit as closely as practical; place runs parallel with lines of building. Use spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
 - 1. Coordination Drawings: Prepare as required to coordinate all portions of Work. Show relationship and integration of different construction elements that require coordination during fabrication or installation to fit in space provided or to function as intended. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are important.
- D. Coordination Meetings: In addition to other meetings specified in this Section, hold coordination meetings with personnel and Subcontractors to ensure coordination of Work.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of Work of separate Sections in preparation for Substantial Completion.
- G. After Owner's occupancy of premises, coordinate access to Site for correction of defective Work and Work not complying with Contract Documents, to minimize disruption of Owner's activities.

1.3 PRECONSTRUCTION MEETING

- A. Engineer will schedule and preside over meeting after Notice of Award.
- B. Attendance Required: Engineer, Owner, Resident Project Representative, appropriate governmental agency representatives, major Subcontractors, and Contractor.
- C. Minimum Agenda:
 - 1. Execution of Owner-Contractor Agreement (if not done prior to meeting).
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of Subcontractors, list of products, schedule of values, and Progress Schedule.
 - 5. Designation of personnel representing parties in Contract, Resident Project Representative and Engineer.
 - 6. Communication procedures.
 - 7. Procedures and processing of requests for interpretations, field decisions, field orders, submittals, substitutions, Applications for Payments, proposal request, Change Orders, and Contract closeout procedures.
 - 8. Scheduling.
 - 9. Critical Work sequencing.
 - 10. Scheduling activities of other parties.
- D. Engineer: Record minutes and distribute 1 copy to participants within three days after meeting.

1.4 SITE MOBILIZATION MEETING

- A. Engineer will schedule meeting at Project Site prior to Contractor occupancy. Contractor presides over meeting.
- B. Attendance Required: Engineer, Owner, Contractor's superintendent, and major Subcontractors.
- C. Minimum Agenda:
 - 1. Use of premises by Owner and Contractor.
 - 2. Owner's requirements.
 - 3. Construction facilities and controls provided by Owner.
 - 4. Temporary utilities provided by Owner.
 - 5. Survey and layout.
 - 6. Security and housekeeping procedures.
 - 7. Schedules.
 - 8. Procedures for testing.
 - 9. Procedures for maintaining record documents.
 - 10. Requirements for startup of equipment.
 - 11. Inspection and acceptance of equipment put into service during construction period.
- D. Contractor Record minutes and distribute one copy to participants within two days after meeting, with one copy each to Engineer, Owner, and those affected by decisions made.

1.5 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum bi-monthly intervals.
- B. Engineer will make arrangements for meetings, prepare agenda with copies for participants, and preside over meetings.

- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Resident Project Representative, Engineer, and Owner as appropriate to agenda topics for each meeting.
- D. Minimum Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems impeding planned progress.
 - 5. Review of submittal schedule and status of submittals.
 - 6. Review of off-Site fabrication and delivery schedules.
 - 7. Maintenance of Progress Schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on Progress Schedule and coordination.
 - 13. Other business relating to Work.
- E. Contractor Record minutes and distribute one copy to participants within two days after meeting, with one copy each to Engineer, Owner, and those affected by decisions made.

1.6 CLOSEOUT MEETING

- A. Schedule Project closeout meeting with sufficient time to prepare for requesting Substantial Completion. Preside over meeting and be responsible for minutes.
- B. Attendance Required: Contractor, major Subcontractors, Engineer, Owner, and others appropriate to agenda.
- C. Notify Engineer four days in advance of meeting date.
- D. Minimum Agenda:
 - 1. Start-up of facilities and systems.
 - 2. Operations and maintenance manuals.
 - 3. Testing, adjusting, and balancing.
 - 4. System demonstration and observation.
 - 5. Operation and maintenance instructions for Owner's personnel.
 - 6. Contractor's inspection of Work.
 - 7. Contractor's preparation of an initial "punch list."
 - 8. Procedure to request Engineer inspection to determine date of Substantial Completion.
 - 9. Completion time for correcting deficiencies.
 - 10. Inspections by authorities having jurisdiction.
 - 11. Certificate of Occupancy and transfer of insurance responsibilities.
 - 12. Partial release of retainage.
 - 13. Final cleaning.
 - 14. Preparation for final inspection.
 - 15. Closeout Submittals:
 - a. Project record documents.
 - b. Operating and maintenance documents.
 - c. Operating and maintenance materials.
 - d. Affidavits.
 - 16. Final Application for Payment.
 - 17. Contractor's demobilization of Site.

18. Maintenance.

- E. Contractor Record minutes and distribute one copy to participants within two days after meeting, with one copy each to Engineer, Owner, and those affected by decisions made.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION-Not Used

END OF SECTION

SECTION 013300

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Definitions.
- B. Submittal procedures.
- C. Construction progress schedules.
- D. Proposed product list.
- E. Product data.
- F. Shop Drawings.
- G. Samples.
- H. Other submittals.
- I. Test reports.
- J. Certificates.
- K. Manufacturer's instructions.
- L. Manufacturer's field reports.
- M. Erection Drawings.
- N. Contractor review.
- O. Engineer review.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Engineer's responsive action.
- B. Informational Submittals: Written and graphic information and physical Samples that do not require Engineer's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Engineer-accepted form.

- B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- C. Identify: Project, Contractor, Subcontractor and supplier, pertinent Drawing and detail number, and Specification Section number appropriate to submittal.
- D. Apply Contractor's stamp, signed or initialed, certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is according to requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite Project, and deliver to Engineer at business address. Coordinate submission of related items.
- F. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.
- G. Identify variations in Contract Documents and product or system limitations that may be detrimental to successful performance of completed Work.
- H. Allow space on submittals for Contractor and Architect/Engineer review stamps.
- I. When revised for resubmission, identify changes made since previous submission.
- J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- K. Submittals not requested will not be recognized nor processed.
- L. Incomplete Submittals: Engineer will not review. Complete submittals for each item are required. Delays resulting from incomplete submittals are not the responsibility of Engineer.

1.4 CONSTRUCTION PROGRESS SCHEDULES

- A. Comply with Section 007500 - Construction Progress Schedule

1.5 PROPOSED PRODUCT LIST

- A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, indicate manufacturer, trade name, model or catalog designation, and reference standards.

1.6 PRODUCT DATA

- A. Product Data: Action Submittal: Submit to Architect/Engineer for review for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of copies Contractor requires, plus two copies Engineer will retain.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.7 SHOP DRAWINGS

- A. Shop Drawings: Action Submittal: Submit to Architect/Engineer for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. When required by individual Specification Sections, provide Shop Drawings signed and sealed by a professional Engineer responsible for designing components shown on Shop Drawings.
 - 1. Include signed and sealed calculations to support design.
 - 2. Submit Shop Drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
 - 3. Make revisions and provide additional information when required by authorities having jurisdiction.
- D. Submit number of opaque reproductions Contractor requires, plus two copies Engineer will retain.
- E. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.8 SAMPLES

- A. Samples: Action Submittal: Submit to Engineer for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Samples for Selection as Specified in Product Sections:
 - 1. Submit to Architect/Engineer for aesthetic, color, and finish selection.
 - 2. Submit Samples of finishes, textures, and patterns for Engineer selection.
- C. Submit Samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate Sample submittals for interfacing work.
- D. Include identification on each Sample, with full Project information.
- E. Submit number of Samples specified in individual Specification Sections; Engineer will retain one Sample.
- F. Reviewed Samples that may be used in the Work are indicated in individual Specification Sections.
- G. Samples will not be used for testing purposes unless specifically stated in Specification Section.
- H. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.9 OTHER SUBMITTALS

- A. Closeout Submittals: Comply with Section 01 70 00 - Execution and Closeout Requirements.

- B. Informational Submittal: Submit data for Engineer's knowledge as Contract administrator or for Owner.
- C. Submit information for assessing conformance with information given and design concept expressed in Contract Documents.

1.10 TEST REPORTS

- A. Informational Submittal: Submit reports for Architect/Engineer's knowledge as Contract administrator or for Owner.
- B. Submit test reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.11 CERTIFICATES

- A. Informational Submittal: Submit certification by manufacturer, installation/application Subcontractor, or Contractor to Architect/Engineer, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product but must be acceptable to Architect/Engineer.

1.12 MANUFACTURER'S INSTRUCTIONS

- A. Informational Submittal: Submit manufacturer's installation instructions for Architect/Engineer's knowledge as Contract administrator or for Owner.
- B. Submit printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing, to Architect/Engineer in quantities specified for Product Data.
- C. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.13 MANUFACTURER'S FIELD REPORTS

- A. Informational Submittal: Submit reports for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit report within 5 days of observation to Engineer for information.
- C. Submit reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.14 ERECTION DRAWINGS

- A. Informational Submittal: Submit Drawings for Architect/Engineer's knowledge as Contract administrator or for Owner.
- B. Submit Drawings for information assessing conformance with information given and design concept expressed in Contract Documents.

- C. Data indicating inappropriate or unacceptable Work may be subject to action by Architect/Engineer or Owner.

1.15 CONTRACTOR REVIEW

- A. Review for compliance with Contract Documents and approve submittals before transmitting to Engineer.
- B. Contractor: Responsible for:
 - 1. Determination and verification of materials including manufacturer's catalog numbers.
 - 2. Determination and verification of field measurements and field construction criteria.
 - 3. Checking and coordinating information in submittal with requirements of Work and of Contract Documents.
 - 4. Determination of accuracy and completeness of dimensions and quantities.
 - 5. Confirmation and coordination of dimensions and field conditions at Site.
 - 6. Construction means, techniques, sequences, and procedures.
 - 7. Safety precautions.
 - 8. Coordination and performance of Work of all trades.
- C. Stamp, sign or initial, and date each submittal to certify compliance with requirements of Contract Documents.
- D. Do not fabricate products or begin Work for which submittals are required until approved submittals have been received from Architect/Engineer.

1.16 ENGINEER REVIEW

- A. Do not make "mass submittals" to Engineer. "Mass submittals" are defined as six or more submittals or items in one day or 15 or more submittals or items in one week. If "mass submittals" are received, Engineer's review time stated above will be extended as necessary to perform proper review. Engineer will review "mass submittals" based on priority determined by Engineer after consultation with Owner and Contractor.
- B. Informational submittals and other similar data are for Architect/Engineer's information, do not require Engineer's responsive action, and will not be reviewed or returned with comment.
- C. Submittals made by Contractor that are not required by Contract Documents may be returned without action.
- D. Submittal approval does not authorize changes to Contract requirements unless accompanied by Change Order.
- E. Owner may withhold monies due to Contractor to cover additional costs beyond the second submittal review.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 014000

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality control.
- B. Tolerances.
- C. References.
- D. Labeling.
- E. Manufacturers' field services.

1.2 QUALITY CONTROL

- A. Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with specified standards as the minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- C. Perform Work using persons qualified to produce required and specified quality.
- D. Products, materials, and equipment may be subject to inspection by Engineer at place of manufacture or fabrication. Such inspections shall not relieve Contractor of complying with requirements of Contract Documents.
- E. Supervise performance of Work in such manner and by such means to ensure that Work, whether completed or in progress, will not be subjected to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' recommended tolerances and tolerance requirements in reference standards. When such tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current as of date of Contract Documents except where specific date is established by code.
- C. Obtain copies of standards and maintain on Site when required by product Specification Sections.
- D. When requirements of indicated reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- E. Neither contractual relationships, duties, or responsibilities of parties in Contract nor those of Engineer shall be altered from Contract Documents by mention or inference in reference documents.

1.5 LABELING

- A. Attach label from agency approved by authorities having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.
- B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label:
 - 1. Model number.
 - 2. Serial number.
 - 3. Performance characteristics.
- C. Manufacturer's Nameplates, Trademarks, Logos, and Other Identifying Marks on Products: Not allowed on surfaces exposed to view in public areas, interior or exterior.

1.6 MANUFACTURER'S FIELD SERVICES

- A. When specified in individual Specification Sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe Site conditions, conditions of surfaces and installation, quality of workmanship, startup of equipment, testing, adjusting, and balancing of equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Engineer 30 days in advance of required observations. Observer is subject to approval of Engineer.
- C. Report observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.
- D. Refer to Section 013300 - Submittal Procedures, "Manufacturer's Field Reports" Article.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 014500

TESTING AND PROCESS CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. This section defines the responsibility of the Contractor and the Engineer to adequately test native materials and construction materials, and to furnish the Engineer with manufacturer's certifications of material quality.

1.02 QUALITY ASSURANCE

- A. The Contractor shall be responsible for all sampling, delivery of samples to a qualified testing agency, testing, and delivery of test results or materials certifications to Engineer at no charge to the Engineer. Testing and certifications reports shall be approved by the Engineer as to conformance to Engineer standard specifications prior to final inspection and/or acceptance by the Engineer of any materials or workmanship.

1.03 SUBMITTALS

- A. Field Test Report: When possible submit original report immediately to Engineer or inspector, but in no case later than end of current day.
- B. Laboratory Test Report: Submit original report to Engineer within 48 hours after test results are determined.

PART 2 EXECUTION

2.01 SAMPLING

- A. Sampling of materials shall be as specified in each test.
- B. The Engineer may require that sampling be performed in their presence, in which case the Developer or Contractor shall be notified of this requirement in writing at the time the building permit is issued, or at the preconstruction meeting, or when construction drawings are released by the Engineer for construction, as applicable.
- C. The presence of the Engineer shall not relieve the Developer/Contractor of any requirement in Section 014500.
- D. Each sample or test shall be accompanied by the following written data, which shall be reported to the Engineer with test results:
 - 1. Name of Project
 - 2. Name of Contractor
 - 3. Project Street Address
 - 4. Appropriate Test Name
 - 5. Date of Sampling

6. Sample Number (if more than one sample per day)
7. Name of technician who performed the testing
8. Location of sample

2.02 TESTING AGENCY

- A. All materials testing, whether in a laboratory or in the field, shall be conducted by a testing agency approved by Engineer.

2.03 SOIL CLASSIFICATION TEST

- A. The soil classification test shall be conducted to determine the suitability of native soils for road subbase and building foundations.
- B. The soil classification test shall conform to AASHTO M-146 of latest revision.
- C. The soil shall be classified according to AASHTO soil classifications.
- D. One soil classification test shall be required for each test area. A test area shall be limited to one parcel of one soil type, a maximum 1,000 feet long and maximum 5 acres.
- E. In test areas of less than 2 acres, the Engineer may waive this requirement.
- F. The soil sample shall be taken from a test area at a minimum depth of 24 inches below the future design grades, of native soil, and shall be free from foreign material, asphalt, concrete, ice or manmade materials.
- G. Where deep footings or pile foundations are proposed, soil classification tests at several depths may be required in each test area.

2.04 COMPACTION TEST OF SOIL AND UNTREATED BASE COURSE

- A. Laboratory tests to establish maximum laboratory density shall be determined in accordance with AASHTO T-180, Method D for A-1 classification soils and AASHTO T-99, Method D for all other soils.
- B. Samples to determine laboratory density shall be taken from the stockpiled backfill or from the uncompacted base course in place.
- C. The acceptance of soil and base course with respect to compaction, shall be based upon the average density of all density tests made in a lot.
 1. Field density tests shall be as specified by AASHTO T-191 or by use of a portable nuclear density testing device. Field density tests shall be taken at a depth equal to $\frac{1}{2}$ the maximum depth of the lift tested.
 2. A lot shall equal the amount of soil or untreated base course compacted in each production day.
 3. A test lot shall be divided into sublots and one density test shall be taken within each subplot.
 4. The location of sampling sites within the subplot shall be chosen on a random basis by use of a suitable random number table.

5. Each test lot shall have a minimum of two (2) sublots. A subplot shall be no larger than 1,000 cubic yards for embankment, no larger than 200 cubic yards for backfill over pipe or against structures and no larger 1,000 cubic yards for untreated road base.
- D. The test results of all samples tested shall be reported to the Engineer. A test lot shall be accepted when the average of the density determinations is not less than the density required for that improvement in these specifications and when no one density determination is less than 95% of the density required by these specifications.

2.05 GRADATION TEST OF UNTREATED BASE COURSE

- A. The gradation of untreated base course shall be determined in accordance with AASHTO T-27.
- B. The total amount of material passing the No. 200 sieve shall be determined by washing in water in accordance with AASHTO T-11.
- C. The acceptance of road base with respect to gradation shall be based upon the average of all determinations in a lot. A lot shall be limited to one source of borrow and limited to one subdivision plat or one development. One sample shall be required for each 1,000 tons of untreated base course in a test lot. When the test lot is less than 100 tons, the requirement for the gradation test may be waived by the Engineer.
- D. The location of sampling sites within a test lot shall be chosen on a random basis by a suitable random number table.
- E. All material not conforming to the specified gradations may be rejected at the Contractor's expense

2.06 EXTRACTION - GRADATION TESTING OF BITUMINOUS SURFACE COURSE

- A. Samples of the bituminous surface course or asphalt concrete shall be tested with respect to gradation and bitumen content in accordance with Utah Department of Highways Test Procedure 8-946 and 8-947 if required by the Engineer.
- B. Mix design shall be submitted to the Engineer for approval 5 days before work is to begin.
- C. Acceptance of bituminous surface course with respect to gradation and bitumen content shall be based upon the average of the determinations made in a lot.
 1. A lot shall equal the amount of bituminous surface course placed in each production day.
 2. When a lot exceeds 1,000 tons, a minimum of three (3) samples shall be taken in each lot.
 3. When a lot is 1,000 tons or less, a minimum of two (2) samples shall be taken.
 4. Samples shall be taken at the time of lay-down of bituminous surface course and before compaction. Samples shall be taken from the mat behind the lay-down machine.
 5. Sampling shall be timed to represent the entire production day. The time of day, date of sample, station and offset location shall be clearly marked with the sample.
 6. If the average oil is less than 2.5% of optimal content, the Contractor may be required to lay an additional lift or slurry seal, based on the Engineer's recommendation.

2.07 COMPACTION TESTING OF BITUMINOUS SURFACE COURSE

- A. Laboratory tests to establish the maximum laboratory density of bituminous surface course shall be determined by the "Marshall Test" in accordance to ASTM D-1559.

- B. Samples to determine maximum laboratory density shall be taken at the time of lay-down of bituminous surface course and before compaction.
- C. Acceptance of bituminous surface course with respect to compaction shall be based upon the average determination of field density tests made in a lot.
 - 1. Field density tests shall be by a portable nuclear density testing device or by laboratory density analysis of core samples.
 - 2. A test lot shall be the quantity of surface course placed and compacted in each construction day.
 - 3. The test lot shall be subdivided into subplot(s) of approximately equal size and no larger than 1,600 square yards in area.
 - 4. One field density test shall be taken in each subplot, randomly located in the test lot by use of a suitable random number table.
- D. The test lot shall be accepted with respect to density when the average of all density determinations is not less than the density required by Section 025040 Hot Mix Asphalt.
- E. Core Tests
 - 1. Acceptance of the completed bituminous surface course with respect to thickness shall be based on the average thickness of a test lot.
 - a. A test lot shall equal approximately 4,000 square yards of completed roadway.
 - b. A lot shall be divided into sublots of approximately 2,000 square yards.
 - 2. One thickness test, randomly selected by use of a random number table, shall be taken within each subplot. A minimum of three core tests will be taken.
 - 3. A lot shall be accepted when the average thickness of all sublots is not less than 3/8 inch the total designated bituminous surface course thickness and when no individual subplot shows a deficient thickness of more than 1/2 inch.
 - 4. Lots or sublots that are not acceptable because of deficient thickness shall be brought into compliance by placing additional surface course as directed by the Engineer.
 - 5. The removed core will be replaced with low strength concrete.

2.08 COMPRESSIVE STRENGTH TESTING OF CONCRETE CYLINDERS

- A. Samples of concrete shall be taken at the construction site, molded in standard cylinder shapes, allowed to cure, and tested with respect to comprehensive strength when required by the Engineer.
- B. All samples of concrete shall be taken in conformance to AASHTO T-141 of the latest revision.
- C. Acceptance of concrete with respect to compressive strength shall be based upon the average determination of all "strength tests" made in a lot.
 - 1. A test lot shall be the quantity of concrete placed at one job in a construction day.
 - 2. For each 50 cubic yards of concrete in a test lot, three (3) compressive "strength tests" shall be run, except that for lots of less than 5 cubic yards, the number of "strength tests" per lot shall be the average strength of three standard cylinders.

3. The making, curing and compressive strength testing of concrete cylinders shall conform to AASHTO T-22 and AASHTO T-23.

D. Concrete may be rejected, if desired strengths are not obtained, at the Contractor's expense.

2.9 ADDITIONAL CONCRETE TESTING

- A. Slump Test: Determine slump in accordance with ASTM C 231.
- B. Air Test: Determine normal weight concrete air content; ASTM C 231 and light weight concrete air content; ASTM C 173.
- C. When requested by Engineer, test concrete in place by impact hammer, sonoscope, or other nondestructive device:
 1. To determine relative strengths in various locations in Work.
 2. To aid in evaluating concrete strength.
 3. To select areas to be cored.

2.10 CERTIFICATIONS FOR WATER SYSTEM VALVES

- A. In certain water system equipment, steel items and pipe listed below, a manufacturer's certificate shall be furnished with each unit of equipment, certifying conformance to the applicable requirements of Standard Specifications:
 1. Gate Valves
 2. Butterfly Valves
 3. Steel Reinforcing Bars
 4. Structural Steel
 5. Corrugated Metal Pipe
 6. Polyvinyl Chloride Pipe
 7. ABS Composite (Truss) and Solid Wall Pipe

2.11 SUMMARY TABLE OF TESTS AND CERTIFICATIONS

- A. The following is a summary of the tests, number of samples per test and certificates that are required for construction work. This summary is provided as a reference guide. For details governing each item, refer to the appropriate test specification herein.

| Test Subject | Specific Test | Number of Tests |
|---------------------|---------------|--|
| Soil Classification | AASHTO M-145 | 1 test per test area of uniform soil type and 5 acres maximum. |

| Test Subject | Specific Test | Number of Tests |
|--|--|---|
| Compaction of Soil & Base Course | Lab Density- AASHTO T-99 Method D or AASHTO T-180 Method D Embankment & Base Course Field Density- Portable Nuclear Equipment or AASHTO T-191 Backfill Field Density- Portable Nuclear Equipment or AASHTO T-191 | As needed to establish laboratory density 1 test plus minimum one test per 1,000 cu.yds. 1 test plus minimum one test per 200 cu.yds. |
| Base Course Gradation | Sieve Analysis- AASHTO T-27 Passing No. 200 Sieve- AASHTO T-11 | 1 test per 1,000 tons |
| Extraction-Gradation Test of Bituminous Surface Course | UDOT Test Procedure 8-946 & 8-947 | 3 tests per pavement construction day |
| Compaction of Bituminous Surface Course | Lab Density- Marshall Test, ASTM D-1559 Field Density- Portable Nuclear Equipment | 1 test per pavement construction day 1 test per 1600 square yards subplot |
| Core Tests | 4" Core Sample | 1 thickness test per 2,000 square yards or 3 test minimum |
| Concrete Test Cylinders | AASHTO T-23 | 3 cylinders per 50 cubic yards or minimum of 3 cylinders on placements less than 50 cubic yards |
| Pressure Reducing & Regulating Valves | Manufacturer's Certificate | 1 for each valve |
| Gate Valve | Manufacturer's Certificate | 1 for each valve over 12" diameter |
| Butterfly Valves | Manufacturer's Certificate | 1 for each valve |
| Steel Re-Bar | Manufacturer's Certificate | 1 for each 1,000 pounds of one grade |
| Structural Steel | Manufacturer's Certificate | 1 for each lot of one shape, one grade |
| Corrugated Metal Pipe | Manufacturer's Certificate | 1 for each 500 lineal feet of one size, one class |
| Polyvinyl Chloride Pipe | Manufacturer's Certificate | 1 for each 500 lineal feet of one size, one class |
| A.B.S. Pipe | Manufacturer's Certificate | 1 for each 500 lineal feet of one size, one class |

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 014500

TESTING AND PROCESS CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. This section defines the responsibility of the Contractor and the Engineer to adequately test native materials and construction materials, and to furnish the Engineer with manufacturer's certifications of material quality.

1.02 QUALITY ASSURANCE

- A. The Contractor shall be responsible for all sampling, delivery of samples to a qualified testing agency, testing, and delivery of test results or materials certifications to Engineer at no charge to the Engineer. Testing and certifications reports shall be approved by the Engineer as to conformance to Engineer standard specifications prior to final inspection and/or acceptance by the Engineer of any materials or workmanship.

1.03 SUBMITTALS

- A. Field Test Report: When possible submit original report immediately to Engineer or inspector, but in no case later than end of current day.
- B. Laboratory Test Report: Submit original report to Engineer within 48 hours after test results are determined.

PART 2 EXECUTION

2.01 SAMPLING

- A. Sampling of materials shall be as specified in each test.
- B. The Engineer may require that sampling be performed in their presence, in which case the Developer or Contractor shall be notified of this requirement in writing at the time the building permit is issued, or at the preconstruction meeting, or when construction drawings are released by the Engineer for construction, as applicable.
- C. The presence of the Engineer shall not relieve the Developer/Contractor of any requirement in Section 014500.
- D. Each sample or test shall be accompanied by the following written data, which shall be reported to the Engineer with test results:
 - 1. Name of Project
 - 2. Name of Contractor
 - 3. Project Street Address
 - 4. Appropriate Test Name
 - 5. Date of Sampling

6. Sample Number (if more than one sample per day)
7. Name of technician who performed the testing
8. Location of sample

2.02 TESTING AGENCY

- A. All materials testing, whether in a laboratory or in the field, shall be conducted by a testing agency approved by Engineer.

2.03 SOIL CLASSIFICATION TEST

- A. The soil classification test shall be conducted to determine the suitability of native soils for road subbase and building foundations.
- B. The soil classification test shall conform to AASHTO M-146 of latest revision.
- C. The soil shall be classified according to AASHTO soil classifications.
- D. One soil classification test shall be required for each test area. A test area shall be limited to one parcel of one soil type, a maximum 1,000 feet long and maximum 5 acres.
- E. In test areas of less than 2 acres, the Engineer may waive this requirement.
- F. The soil sample shall be taken from a test area at a minimum depth of 24 inches below the future design grades, of native soil, and shall be free from foreign material, asphalt, concrete, ice or manmade materials.
- G. Where deep footings or pile foundations are proposed, soil classification tests at several depths may be required in each test area.
- H. Soil Classification testing shall be performed by the Engineer.

2.04 COMPACTION TEST OF SOIL AND UNTREATED BASE COURSE

- A. Laboratory tests to establish maximum laboratory density shall be determined in accordance with AASHTO T-180, Method D for A-1 classification soils and AASHTO T-99, Method D for all other soils.
- B. Samples to determine laboratory density shall be taken from the stockpiled backfill or from the uncompacted base course in place.
- C. The acceptance of soil and base course with respect to compaction, shall be based upon the average density of all density tests made in a lot.
 1. Field density tests shall be as specified by AASHTO T-191 or by use of a portable nuclear density testing device. Field density tests shall be taken at a depth equal to $\frac{1}{2}$ the maximum depth of the lift tested.
 2. A lot shall equal the amount of soil or untreated base course compacted in each production day.
 3. A test lot shall be divided into sublots and one density test shall be taken within each sublot.

4. The location of sampling sites within the subplot shall be chosen on a random basis by use of a suitable random number table.
 5. Each test lot shall have a minimum of two (2) sublots. A subplot shall be no larger than 1,000 cubic yards for embankment, no larger than 200 cubic yards for backfill over pipe or against structures and no larger 1,000 cubic yards for untreated road base.
- D. The test results of all samples tested shall be reported to the Engineer. A test lot shall be accepted when the average of the density determinations is not less than the density required for that improvement in these specifications and when no one density determination is less than 95% of the density required by these specifications.
- E. Compaction testing of soil and untreated base coarse shall be performed by the Engineer.

2.05 GRADATION TEST OF UNTREATED BASE COURSE

- A. The gradation of untreated base course shall be determined in accordance with AASHTO T-27.
- B. The total amount of material passing the No. 200 sieve shall be determined by washing in water in accordance with AASHTO T-11.
- C. The acceptance of road base with respect to gradation shall be based upon the average of all determinations in a lot. A lot shall be limited to one source of borrow and limited to one subdivision plat or one development. One sample shall be required for each 1,000 tons of untreated base course in a test lot. When the test lot is less than 100 tons, the requirement for the gradation test may be waived by the Engineer.
- D. The location of sampling sites within a test lot shall be chosen on a random basis by a suitable random number table.
- E. All material not conforming to the specified gradations may be rejected at the Contractor's expense
- F. Gradation tests of untreated base course shall be performed by the Engineer.

2.06 EXTRACTION - GRADATION TESTING OF BITUMINOUS SURFACE COURSE

- A. Samples of the bituminous surface course or asphalt concrete shall be tested with respect to gradation and bitumen content in accordance with Utah Department of Highways Test Procedure 8-946 and 8-947 if required by the Engineer.
- B. Mix design shall be submitted to the Engineer for approval 5 days before work is to begin.
- C. Acceptance of bituminous surface course with respect to gradation and bitumen content shall be based upon the average of the determinations made in a lot.
1. A lot shall equal the amount of bituminous surface course placed in each production day.
 2. When a lot exceeds 1,000 tons, a minimum of three (3) samples shall be taken in each lot.
 3. When a lot is 1,000 tons or less, a minimum of two (2) samples shall be taken.
 4. Samples shall be taken at the time of lay-down of bituminous surface course and before compaction. Samples shall be taken from the mat behind the lay-down machine.

5. Sampling shall be timed to represent the entire production day. The time of day, date of sample, station and offset location shall be clearly marked with the sample.
 6. If the average oil is less than 2.5% of optimal content, the Contractor may be required to lay an additional lift or slurry seal, based on the Engineer's recommendation.
- D. Extraction - Gradation testing of bituminous surface coarse material shall be performed by the Engineer.

2.07 COMPACTION TESTING OF BITUMINOUS SURFACE COURSE

- A. Laboratory tests to establish the maximum laboratory density of bituminous surface course shall be determined by the "Marshall Test" in accordance to ASTM D-1559.
- B. Samples to determine maximum laboratory density shall be taken at the time of lay-down of bituminous surface course and before compaction.
- C. Acceptance of bituminous surface course with respect to compaction shall be based upon the average determination of field density tests made in a lot.
1. Field density tests shall be by a portable nuclear density testing device or by laboratory density analysis of core samples.
 2. A test lot shall be the quantity of surface course placed and compacted in each construction day.
 3. The test lot shall be subdivided into subplot(s) of approximately equal size and no larger than 1,600 square yards in area.
 4. One field density test shall be taken in each subplot, randomly located in the test lot by use of a suitable random number table.
- D. The test lot shall be accepted with respect to density when the average of all density determinations is not less than the density required by Section 025040 Hot Mix Asphalt.
- E. Core Tests
1. Acceptance of the completed bituminous surface course with respect to thickness shall be based on the average thickness of a test lot.
 - a. A test lot shall equal approximately 4,000 square yards of completed roadway.
 - b. A lot shall be divided into sublots of approximately 2,000 square yards.
 2. One thickness test, randomly selected by use of a random number table, shall be taken within each subplot. A minimum of three core tests will be taken.
 3. A lot shall be accepted when the average thickness of all sublots is not less than 3/8 inch the total designated bituminous surface course thickness and when no individual subplot shows a deficient thickness of more than 1/2 inch.
 4. Lots or sublots that are not acceptable because of deficient thickness shall be brought into compliance by placing additional surface course as directed by the Engineer.
 5. The removed core will be replaced with low strength concrete.
- F. Compaction testing of Bituminous surface coarse shall be performed by the Engineer.

2.08 COMPRESSIVE STRENGTH TESTING OF CONCRETE CYLINDERS

- A. Samples of concrete shall be taken at the construction site, molded in standard cylinder shapes, allowed to cure, and tested with respect to compressive strength when required by the Engineer.
- B. All samples of concrete shall be taken in conformance to AASHTO T-141 of the latest revision.
- C. Acceptance of concrete with respect to compressive strength shall be based upon the average determination of all "strength tests" made in a lot.
 - 1. A test lot shall be the quantity of concrete placed at one job in a construction day.
 - 2. For each 50 cubic yards of concrete in a test lot, three (3) compressive "strength tests" shall be run, except that for lots of less than 5 cubic yards, the number of "strength tests" per lot shall be the average strength of three standard cylinders.
 - 3. The making, curing and compressive strength testing of concrete cylinders shall conform to AASHTO T-22 and AASHTO T-23.
- D. Concrete may be rejected, if desired strengths are not obtained, at the Contractor's expense.
- E. Compressive strength testing of concrete cylinders shall be performed by the Engineer.

2.9 ADDITIONAL CONCRETE TESTING

- A. Slump Test: Determine slump in accordance with ASTM C 231.
- B. Air Test: Determine normal weight concrete air content; ASTM C 231 and light weight concrete air content; ASTM C 173.
- C. When requested by Engineer, test concrete in place by impact hammer, sonoscope, or other nondestructive device:
 - 1. To determine relative strengths in various locations in Work.
 - 2. To aid in evaluating concrete strength.
 - 3. To select areas to be cored.
- D. Additional concrete testing shall be performed by the Engineer.

2.10 CERTIFICATIONS FOR WATER SYSTEM VALVES

- A. In certain water system equipment, steel items and pipe listed below, a manufacturer's certificate shall be furnished with each unit of equipment, certifying conformance to the applicable requirements of Standard Specifications:
 - 1. Gate Valves
 - 2. Butterfly Valves
 - 3. Steel Reinforcing Bars
 - 4. Structural Steel
 - 5. Corrugated Metal Pipe

6. Polyvinyl Chloride Pipe
7. ABS Composite (Truss) and Solid Wall Pipe

2.11 SUMMARY TABLE OF TESTS AND CERTIFICATIONS

- A. The following is a summary of the tests, number of samples per test and certificates that are required for construction work. This summary is provided as a reference guide. For details governing each item, refer to the appropriate test specification herein.

| Test Subject | Specific Test | Number of Tests |
|--|--|---|
| Soil Classification | AASHTO M-145 | 1 test per test area of uniform soil type and 5 acres maximum. |
| Compaction of Soil & Base Course | Lab Density- AASHTO T-99 Method D or AASHTO T-180 Method D Embankment & Base Course Field Density- Portable Nuclear Equipment or AASHTO T-191 Backfill Field Density- Portable Nuclear Equipment or AASHTO T-191 | As needed to establish laboratory density 1 test plus minimum one test per 1,000 cu.yds. 1 test plus minimum one test per 200 cu.yds. |
| Base Course Gradation | Sieve Analysis- AASHTO T-27 Passing No. 200 Sieve- AASHTO T-11 | 1 test per 1,000 tons |
| Extraction-Gradation Test of Bituminous Surface Course | UDOT Test Procedure 8-946 & 8-947 | 3 tests per pavement construction day |
| Compaction of Bituminous Surface Course | Lab Density- Marshall Test, ASTM D-1559 Field Density- Portable Nuclear Equipment | 1 test per pavement construction day 1 test per 1600 square yards subplot |
| Core Tests | 4" Core Sample | 1 thickness test per 2,000 square yards or 3 test minimum |
| Concrete Test Cylinders | AASHTO T-23 | 3 cylinders per 50 cubic yards or minimum of 3 cylinders on placements less than 50 cubic yards |
| Pressure Reducing & Regulating Valves | Manufacturer's Certificate | 1 for each valve |
| Gate Valve | Manufacturer's Certificate | 1 for each valve over 12" diameter |
| Butterfly Valves | Manufacturer's Certificate | 1 for each valve |
| Steel Re-Bar | Manufacturer's Certificate | 1 for each 1,000 pounds of one grade |
| Structural Steel | Manufacturer's Certificate | 1 for each lot of one shape, one grade |
| Corrugated Metal Pipe | Manufacturer's Certificate | 1 for each 500 lineal feet of one size, one class |
| Polyvinyl Chloride Pipe | Manufacturer's Certificate | 1 for each 500 lineal feet of one size, one class |
| A.B.S. Pipe | Manufacturer's Certificate | 1 for each 500 lineal feet of one size, one class |

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 015000

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Construction Facilities: Progress cleaning.
- B. Temporary Utilities: Electricity, water, and sanitary facilities.
- C. Temporary Controls: Barriers and protection of the installed work.
- D. Requirements for controlling surface and subsurface environmental conditions at the construction site, and related areas under the CONTRACTOR's responsibility.
- E. Requirements for removal of physical evidence of temporary controls upon completion of work.

1.01 REFERENCES

- A. UOSH Construction Standards Chapter D: Occupational Health and Environmental Controls.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Temporary Materials: CONTRACTOR's choice.

PART 3 EXECUTION

3.01 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition

3.02 TEMPORARY ELECTRICITY

- A. Cost: By Contractor; provide and pay for power service required from utility source.

3.03 TEMPORARY HEATING

- A. Provide and pay for heating devices and heat as needed to maintain specified conditions for construction operations.

3.04 TEMPORARY WATER SERVICE

- A. Provide, maintain and pay for suitable quality water service required for construction operations at time of project mobilization.

3.05 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

3.06 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide protection for plants designated to remain. Replace damaged plants.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

3.07 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to prevent damage.
- C. Prohibit traffic from landscaped areas.

3.08 NOISE CONTROL

- A. Use equipment that is equipped with noise attenuation devices. Comply with UOSH Construction Standards Chapter D rules and regulations and local Laws and Regulations.
- B. The Contractor shall comply to UDOT 2002 Standard Specifications, Section 01355, 1.7 Noise and Vibration Control.

3.09 DUST AND MUD CONTROL

- A. The Contractor will be required to obtain a permit from Utah Division of Air Quality to minimize fugitive dust from the construction activities.
- B. The Contractor will be required to stockpile all excavated and stored material within the existing roadway areas. No construction equipment will be allowed to contact vegetated or wetland areas.
- C. Provide suitable equipment to control dust or air pollution caused by construction operations.
- D. Provide suitable mud and dirt containment, so work site, access roadways and properties adjacent to the work site are kept clean.
- E. The Contractor shall provide all labor, equipment, and materials, and shall use efficient methods wherever and whenever required to prevent dust nuisance or damage to persons, property, or activities, including, but not limited to crops, orchard, cultivated fields, wildlife habitats, dwellings and residences, agricultural activities, recreational activities, traffic, and similar conditions. Methods of mixing, handling, and storing cement, pozzolan, and concrete aggregate shall include

means of eliminating atmospheric discharges of dust.

- F. The City Engineer and/or Construction Manager has authority to stop any construction activity contributing to dust levels which are excessive or in violation of Federal, State, or local laws. All expenses resulting from such a work stoppage is the responsibility of the Contractor.

3.10 SURFACE WATER CONTROL

- A. Control all on-site surface water. Provide proper drainage so flooding of the site or adjacent property does not occur.
- B. Provide and maintain ample means and devices with which to promptly remove and properly dispose of all water entering the site.
- C. Immediately prior to suspension of construction operations for any reason, provide proper and necessary drainage of work area.
- D. Provide berms or channels as necessary to prevent flooding or saturation of subgrade. Promptly remove all water collecting in depressions.
- E. Dispose of water in a manner that will not cause damage to adjacent areas of facilities.

3.11 POLLUTION CONTROL

- A. Soil: Prevent contamination of soil from discharge of noxious substances (including engine oils, fuels, lubricants, etc.) during construction operations. Excavate and legally dispose of any such contaminated soil off-site, and replace with acceptable compacted fill and/or topsoil.
- B. Water: Prevent disposal of waste, effluent, chemicals or other such substances adjacent to or into streams, waterways, sanitary sewers, storm drains, or public waterways. Perform any emergency measures that may be required to contain any spillage.
- C. Air: Control atmospheric pollutants. Develop a fugitive dust control plan and submit it to the Executive Secretary at the Division of Air Quality for approval prior to beginning construction activities.

3.12 EROSION CONTROL

- A. Use measures such as berms, dikes, dams, sediment basins, fiber mat netting, gravel mulches, slopes, drains and other erosion control devices or methods to prevent erosion and sedimentation.
- B. Provide construction and earthwork methods which control surface drainage from cut, fill, borrow, and waste disposal areas, to prevent erosion and sedimentation.
- C. Inspect earthwork during execution to detect any evidence of the start of erosion. Apply corrective measures as required.
- D. Obtain and execute a UPDES storm water discharge permit from the Division of Water Quality prior to beginning construction activities.

END OF SECTION

SECTION 015526

TRAFFIC REGULATION

PART 1 GENERAL

1.01 DESCRIPTION

This Section describes procedures for traffic regulation during construction of the Project.

1.02 SUBMITTALS

- A. Submit traffic control plan in accordance with the Supplemental General Conditions and UDOT State Specifications. The traffic control concept shown on the plans is for bidding purposes and is intended to serve as a guideline only. The Contractor shall be responsible for the preparation and adequacy of any traffic control plan utilized, including this suggested plan, and shall submit the final traffic control plan (prepared, signed and sealed by a Utah licensed professional engineer) in drawing form to the Engineer.
- B. Submit to the Engineer a detailed signing and traffic detouring plan in drawing form for each phase for approval. Post detour routes to provide clear guidance to traffic as approved by the Engineer.

1.03 GENERAL

- A. Control traffic at those locations indicated and in conformance with the Plans and as approved by the Engineer.
- B. Furnish, install, construct, maintain, and remove detours, road closures, lights, temporary signals, signs, barricades, K-rail, fences, flares, miscellaneous traffic devices, flagmen, drainage facilities, paving, and such other items and services as are necessary to adequately safeguard the public from hazard and inconvenience. All such work shall comply with the ordinances, directives, and regulations of authorities with jurisdiction over the public roads in which the construction takes place and over which detoured traffic is routed by the Contractor.
- C. After devices have been installed, maintain and keep them in good repair and working order until no longer required. Replace such devices that are lost or damaged, to such an extent as to require replacement, regardless of the cause of such loss or damage.
- D. Prior to the start of construction operations, notify the Engineer and local police and fire departments in whose jurisdiction the project lies, giving the expected starting date, completion date, and the name and telephone number of a responsible person who may be contacted at any hour in the event of a condition requiring immediate correction.

1.04 TRAFFIC CONTROL DEVICES AND SIGNS

- A. Construction signing, striping, barricades, and other traffic control devices used for handling traffic and public convenience shall conform to the latest edition of the Federal Highway Administration "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD).

- B. Signs shall be reflectorized when they are used during hours of darkness. Provide cones, pylons, barricades, or posts used in the diversion of traffic with flashers or other illumination if in place during hours of darkness.
- C. Maintain a 24-hour emergency service to remove, install, relocate, and maintain warning devices and furnish to the authority having jurisdiction names and telephone numbers of three persons responsible for this emergency service. In the event these persons do not promptly respond or the authority having jurisdiction deems it necessary to call out other forces to accomplish emergency service, the Contractor will be held responsible for the cost of such emergency service.
- D. During the duration of a detour, cover all signs not in accordance with the traffic control plan. Relocate existing signs to provide visibility from all relocated traffic lanes.
- E. Temporary traffic striping, where used, shall be removable pavement marking tape. Pavement markings shall be white or yellow, weather and traffic resistant reflective film on conformable backing and pre-coated with a pressure-sensitive adhesive that does not require an activation process.
- F. Temporary pavement markings shall conform to the following minimum reflective values as specified. Express reflective values as candlepower per foot candle per square foot measured on a 1 foot by 2 foot (0.3 m by 0.6 m) panel at 86 degrees incidence.

Divergence

| <u>Angle</u> | <u>White</u> | <u>Yellow</u> |
|--------------|--------------|---------------|
| 0.2° | 0.20 | 0.18 |
| 0.5° | 0.18 | 0.16 |

- G. Supply striping tape in rolls ready for application. Use pavement message tape 20 to 30 mils (0.5 to 0.7 mm) thick, that does not shrink or release prematurely, and that has an easily removable liner.
- H. At the end of each workday, place temporary pavement markers on any roadway surfaces open to traffic. Apply pavement markers to a clean and dry surface during daylight hours. During winter shut- down, place permanent paint striping and pavement messages.
- I. Press the tape into the surface until it adheres to the pavement surface.

1.05 VEHICULAR TRAFFIC CONTROL

Reduce speed limit through the construction zone to 5 mph and post accordingly.

Traffic lane transitions from permanent lanes to construction zone patterns shall be transitioned in accordance with the requirements for the normal posted speed limit and as shown on the plans.

Where traffic is directed around or adjacent to the construction area, the contractor shall provide, install, maintain, and remove delineators, barricades, lights, signs, and other devices required for the control of traffic as required by UDOT traffic regulations and said "Manual on Uniform Traffic Control Devices". The Engineer shall have the right to relocate or direct the Contractor to relocate traffic control devices.

All roadways and sidewalks shall be returned to unrestricted vehicle and pedestrian usage when construction is not underway. Truck operations in and out of construction and staging areas shall be controlled by flagmen at all times.

- A. The Contractor shall provide public access to Art Dye Park at all times.
- B. Construction in Intersections: The Contractor shall maintain one lane of traffic through the construction area at all times, or single blocks shall be closed at a time if suitable detours can be made. Access to residences shall be made at the conclusion of the day's work.

1.06 ACCESS TO ADJACENT PROPERTIES

- A. General: Maintain reasonable access to all adjacent properties at all times during construction. Prior to restricting normal access from public streets to adjacent properties, notify each property owner or responsible person, informing him of the nature of the access restriction, the approximate duration of the restriction, and the best alternate access route for that particular property.

1.07 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking. Do not interfere with public traffic or parking, access by emergency vehicles, Owner's operations, or construction operations.
- B. Monitor parking of private vehicles.
 - 1. Maintain free vehicular access to and through parking areas.
 - 2. Prohibit parking on or adjacent to access roads, or in non-designated areas.
 - 3. Maintain fire and emergency vehicle access.

END OF SECTION

SECTION 016000
MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Product options.
- E. Substitutions.

1.02 RELATED SECTIONS

- A. GENERAL CONDITIONS - Section 8 - Substitutions

1.03 PRODUCTS

- A. Provide interchangeable components of the same manufacture for components being replaced.

1.04 TRANSPORTATION AND HANDLING

- A. Transport and handle Products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure that Products comply with requirements, quantities are correct, and Products are undamaged.
- C. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.05 STORAGE AND PROTECTION

- A. Store and protect Products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive Products in weather tight, climate controlled, enclosures in an environment favorable to Product.
- D. For exterior storage of fabricated Products, place on sloped supports above ground.
- E. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of Products.

- F. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- G. Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- H. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

1.06 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.

1.07 SUBSTITUTIONS

- A. Instructions to Bidders specify time restrictions for submitting requests for Substitutions during the bidding period to requirements specified in this section.
- B. Substitutions may be considered when a Product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that the Bidder or Contractor:
 - 1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
 - 2. Will provide the same warranty for the Substitution as for the specified Product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
 - 5. Will reimburse Owner and Engineer for review or redesign services associated with re-approval by authorities.

- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- F. Substitution Submittal Procedure:
 - 1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 - 2. Submit shop drawings, product data, and certified test results attesting to the proposed Product equivalence. Burden of proof is on proposer.
 - 3. The Engineer will notify Contractor in writing of decision to accept or reject request.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 017000

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Adjusting.
- D. Project record documents.

1.02 RELATED SECTIONS

- A. Section 015000 - Construction Facilities and Temporary Controls: Progress cleaning.

1.03 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's review.
- B. Provide submittals to Engineer Owner that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.04 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- C. Clean site; sweep paved areas, rake clean landscaped surfaces.
- D. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.05 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.06 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:

1. Drawings.
 2. Specifications.
 3. Addenda.
 4. Change Orders and other modifications to the Contract.
 5. Reviewed Shop Drawings, Product Data, and Samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and modifications.
- F. Record Drawings: Legibly mark each item to record actual construction including:
1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 2. Field changes of dimension and detail.
 3. Details not on original Contract drawings.
 4. Final Payment will not be made until Record Drawings have been submitted to Engineers.
- G. Submit documents to Engineer with claim for final Application for Payment.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SPECIAL PROVISION
SECTION 03 30 04
CONCRETE

This specification changes a portion of Section 03 30 04 in the Manual of Standard Specifications. All other provisions of the Section remain in full force and effect.

Add to article 1.3 Submittals:

E. Color:

1. Contractor to submit coloring scheme for concrete admixture to be approved by the engineer. Color shall be a dark red to match the existing stamped concrete located at 980 N. 500 E. in American Fork, UT. Contractor to submit name and address of supplier of coloring admixture

Add to Part 1:

1.6 Delivery, Storage and Handling

- A. Coloring Admixture: Comply with manufacturer's instructions. Deliver coloring admixtures into manufacturer's temperature-controlled container and store in clean, dry conditions. Maintain method of storage and temperature of materials as recommended by the manufacturer.

Add to Section 2.4 Additives:

- E. Coloring admixture shall conform to the requirements of ASTM C 979/C 979M and ACI 303.1.

END OF DOCUMENT

SPECIAL PROVISION
SECTION 03 30 10
CONCRETE PLACEMENT

This specification changes a portion of Section 03 30 04 in the Manual of Standard Specifications. All other provisions of the Section remain in full force and effect.

Add to article 3.8 Finishing:

- B. Concrete shall be stamped to a clean finish.
- C. Concrete pattern shall match the existing stamped concrete located at 980 N. 500 E. in American Fork, UT. If pattern cannot be matched then contractor to submit an alternate pattern to be approved by the Engineer.

END OF DOCUMENT

SPECIAL PROVISION
SECTION 32 12 05
BITUMINOUS CONCRETE

This specification changes a portion of Section 32 12 05 in the Manual of Standard Specifications. All other provisions of the Section remain in full force and effect.

Replace article 2.4, paragraph A with the following:

A. Materials:

1. Mix Design will be: ½” nominal gradation (¾” nominal gradation to be used on 1120 N and Auto Mall Drive), 75 gyration, 15% RAP max, PG 64-34 Binder, 15.0% VMA calculated using Gsb (Dry), 3.5% Design air voids, dust/binder=1.2 max.
2. Bituminous Binder.
 - 1) PG 64-34
3. Aggregate: This section article 2.4, paragraph B.
4. Additives: This section article 2.3. Add cement, hydrated lime, or chemical liquid if mix is moisture sensitive.

Replace article 2.3, paragraph D with the following:

- D. RAP or ROSP: Free of detrimental quantities of deleterious materials.**
1. 15% RAP max by weight

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